WOOD and wood products

March, 1952

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FORESTRY LIBRARY

Ray C. DuBrucq

See Page 25 — WOOD SALUTES

Material Handling

For specific material handling stories read how Bader stores lumber on wheels and conveyors for finishing.

Glued Lamination

Read on page 28 how glued laminated lumber has made big gains. Its importance will increase.

Specifications

See page 27 for the latest information on government requirements on wood and wood products.

See These Features

- Solvent Seasoning
- Markets
- Trends
- Names
- Saw Maintenance
- Wood Dictionary
- Patent Digest
- Automatic Lidding

A Vance Publication

The National Management and News Magazine of the Forest Products Industry.

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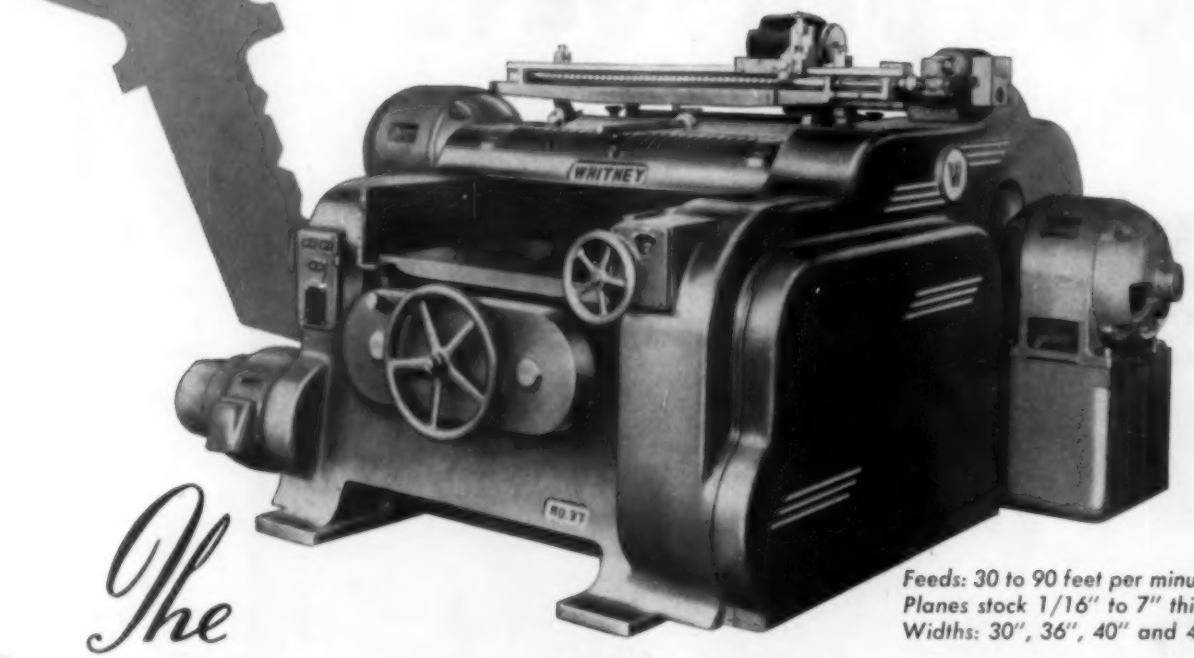
Accuracy and Smoothness in Planing —Key to *Bigger* Profits



Feeds: 30 to 90 feet per minute.
Planes stock 1/16" to 7" thick.
Widths: 30", 36", 40" and 44"

The WHITNEY 97 has these *built-in* qualities

Accuracy and smooth planing are built into every Whitney Planer. Whether your work is television tops, furniture, chair parts, novelties or miscellaneous planing, you'll find that the Whitney 97 Double Surfacer has what it takes. Careful, expert workmanship, long experience in building quality planers and up-to-the-minute design combine to give you the best in planing at lowest cost.

No matter on what basis you compare the Whitney 97 — production, dependability, low maintenance or quality — the Whitney will more than fulfill your requirements.

Write today for new 97 Planer Bulletin M3

BAXTER D. WHITNEY & SON, Inc.
WINCHENDON, MASSACHUSETTS, U. S. A.

WHITNEY PLANERS for S-M-O-O-T-H ACCURATE PLANING

Our 115th Year

Plane it BETTER on a Whitney

PLANERS • SHAPERS • VARIETY SAWS
AUTOMATIC SHAPERS • MORTISERS • BACK KNIFE LATHES

WOOD and wood products

Volume 57 No. 3

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(Advertisement)

Mauk Talk

No matter how balmy the weather, it never feels like Spring until after March 15th.

The typical American is the guy who yells for the government to balance its budget and then borrows five to scrape through to payday.

"The present day college boy doesn't waste much time," says an eastern university president, in a magazine article. Nope—most gals are reasonable.

At a recent convention of photographers in Hollywood it was demonstrated what could be done with models—during working hours.

You want to be sure your industrial lumber needs are met exactly and economically? Send your specific order to MAUK.

We know the right sawmill with the proper logs, right machinery and the know how to give you precisely what you need. Try us. We're good.

Simple Celia said she had a good job in a night club but they wanted her to go out with the band. She really thought she ought to wear something more.

Who says we got inflation? In 1934 you could buy a Chevrolet sedan for only $600. Today you can still buy a Chev for $600—if you want a 1934 model.

Some gals find that a guy can be like a bucket of paint. Once they get him stirred up he's hard to get off their hands.

MAUK Seattle Lumber Co.
Seattle 5, Washington

The C. A. Mauk Lumber Co.
Toledo, Ohio

GLAD YOU NOTICED!

. . . THAT OUR SIGNATURE HAD CHANGED

Sort of a new necktie for Spring.

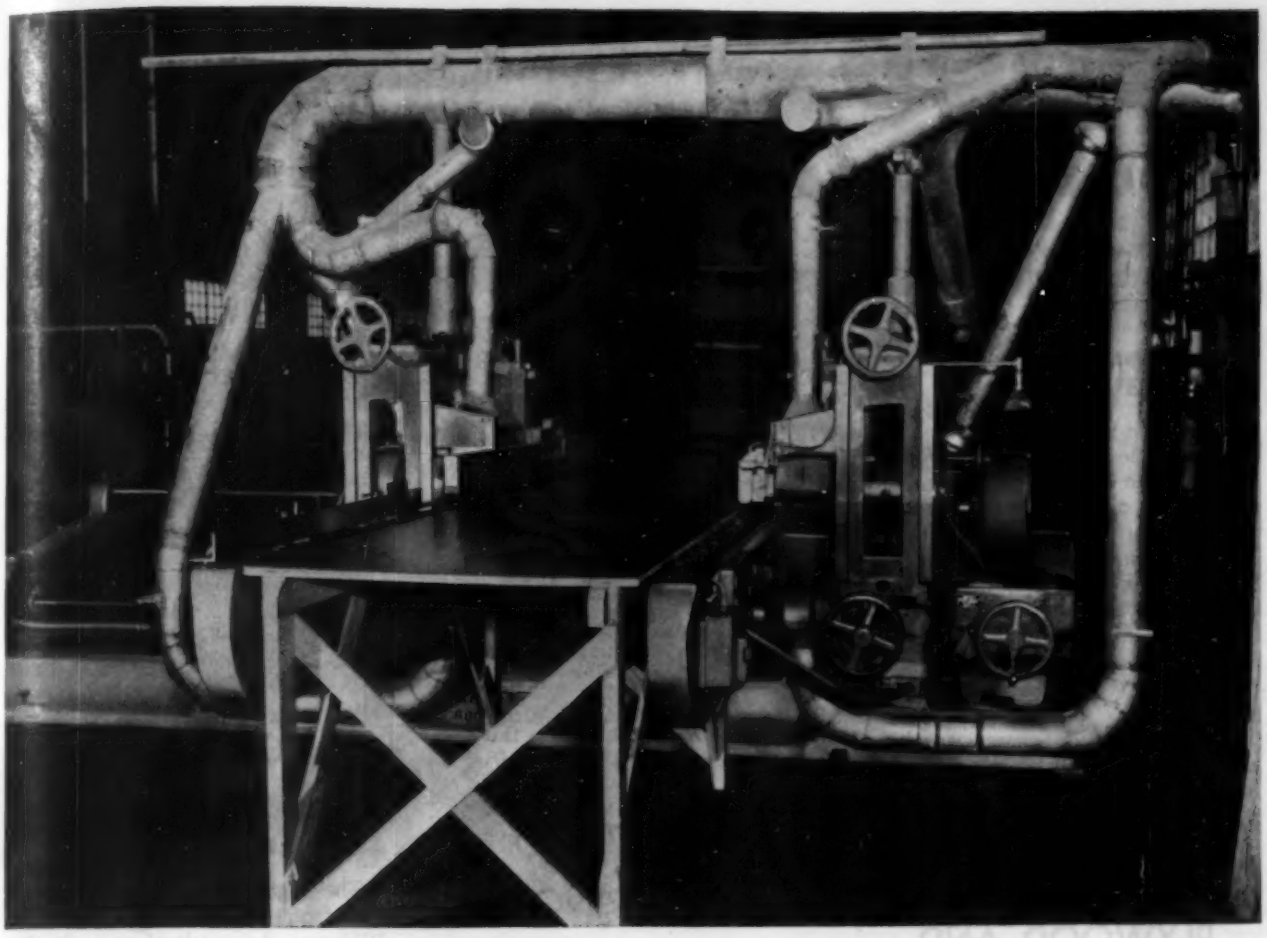
Before, you remember, we had a pair of dice illustrated with our name—to remind you that you did not gamble when you bought your hardwood dimension requirements from Gamble Brothers. The fact still stands, even now that the dice are gone: you buy with *assurance* of satisfaction when you buy from Gamble Brothers.

Our new signature, in the style of a certifying seal, is more than a boast of the high standards we have achieved in our field . . . it is a pledge that we will continue to provide the excellence and precision in material and workmanship, and the wood engineering know-how acquired over fifty years of operation, for which the name of Gamble Brothers has long been respected.

Engineered Wood Parts in Southern and Appalachian Hardwoods, Walnut or Mahogany

INCORPORATED

MAIN PLANT: LOUISVILLE 9, KY. ● BRANCH: MONTGOMERY, ALA.



Look to The Greenlee if you want Accuracy and Speed in sizing plywood

Accuracy and speed are inherent in the GREENLEE No. 545 Double-End Tenoner, because it was planned that way. And this means that the purchaser profits as a result of it, regardless of the use to which it is put.

Take the West Coast installation shown above as an example. Here is a GREENLEE No. 545 with all that is needed to make it a top producer. Purchased for sizing plywood and hardboard, it is fitted with roller hold-downs and hogging heads on the tenoning units.

Hogging the offal on the machine represents a real saving, since it eliminates conveyors and offal disposal problems. Why the wooden table between the chain beams? It was improvised by the customer to support the stock for a special operation.

Yes, the GREENLEE No. 545 is sturdy, accurate, and fast. Beyond that, it is so easily set up that short runs are often the rule rather than the exception.

Many design features are responsible for this, such as the dial system, mounting of the pressure beams — but all are illustrated and described in our 20-page bulletin. Why not ask for it now and learn of the many reasons why the GREENLEE Double-End Tenoner brings unusual accuracy and speed to plywood sizing. Greenlee Bros. & Co., 1923 Twentieth Avenue, Rockford, Illinois.

TOOLS FOR CRAFTSMEN

GREENLEE

GREENLEE WOODWORKING MACHINERY: MORTISERS · BORERS · SAWS · TENONERS · PLANERS · SHAPERS · MORTISING & BORING TOOLS

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WOOD and wood products Industry Trends

Wood Beams Hold 133 Years

One of the most surprising developments revealed during the renovation of the White House was the remarkable ability of wood to resist terrific abuse during 133 years of continuous use. An outstanding example was the State Dining Room which when revamped in 1902 necessitated that 18-in. wood beams be cut down to 5 inches. Those beams, only 28 percent their original size, still held. They were still holding 45 years later.

One construction expert, speaking before a meeting of prominent building contractors, summed up the situation by stating, "the way the timber in that building stood up was absolutely beyond belief."

PLYWOOD AND VENEER

More West Coast Plywood Plants

In 1951 the West Coast Plywood Industry put more new plants in operation, and production topped all previous records. There were 33 new plywood, veneer and specialty plants put into production making a total of 134 plants operating in California, Oregon, Washington and British Columbia. Today there are 14 new plants under construction that will come into production in 1952. Production is estimated at 2.7 billion square feet, a 7 percent increase over 1950.

Product Development

Necessity, brought about by lower grade logs and lower grade veneers, is bringing some interesting new product developments in the softwood plywood field. Among those which are being profitably produced and effectively advertised and merchandised are hardboard overlay or surfacing, pre-finished panels of various hardwoods, vertical grain redwood and fir faces, and plastic surfaces.

Furniture Merchandising

The Lincoln Mercury Division of Ford Motor Co. has arranged a tie-in with the Drexel Furniture Co. to have the new Lincoln shown in more than 100 of the leading department stores throughout the country. Lincoln car dealers will promote Drexel furniture —either models or blow-up pictures— in their show rooms. The department stores will combine the autos in displays with furniture, home accessories and new clothing to dramatize a "casual" trend in present day living. Congratulations to Drexel for this progressive step in furniture merchandising.

HARDWOOD FLOORING

Expect Expansion of Residential Market

The hardwood flooring industry hopes to gain a greater share of the available residential market in 1952, according to Milton Craft, President of The National Oak Flooring Manufacturers' Association. He reported that 1951 was the second biggest year in the industry's history, and that the volume of shipments indicated that oak flooring was gaining increased popularity among home builders and buyers.

Final 1951 shipment figures for the Southern and Appalachian regions, source of about 90 percent of the nation's hardwood flooring, were expected to approach 950 million board feet. Craft said that would represent a decline of less than 8 percent from the record output of 1,025,762,000 board feet in 1950, as compared with a drop of about 22 percent in housing starts.

WOODICTIONARY

CAMP INSPECTOR

A logger who drifts from camp to camp, trying out the food and living accommodations, but working as little as possible.

CONTAINERS

1952 Requirements Adequate

The high production of container manufacturers during the first half of 1951 was the result of scare buying, rise in demand occasioned by the overall increased economic activity, and the anticipation of future shortages. The effect created by these factors was largely responsible for the lull in third quarter shipments.

About 25 percent of the third quarter production of nailed wooden boxes was in direct defense items. This represents a 5 percent increase over the previous quarter. The decline in the third quarter production-shipment volume raised the proportion of defense business.

There was a slight increase in demand for slack cooperage, due principally to the seasonable demand for tobacco hogsheads. Stave and heading producers were able to operate more efficiently because of improved weather conditions.

The production of tight barrels and kegs was about the same as the previous quarter. Whiskey barrel production reached its peak for the year during the month of August, and tapered off during September, because of crowded warehouse facilities of distillers.

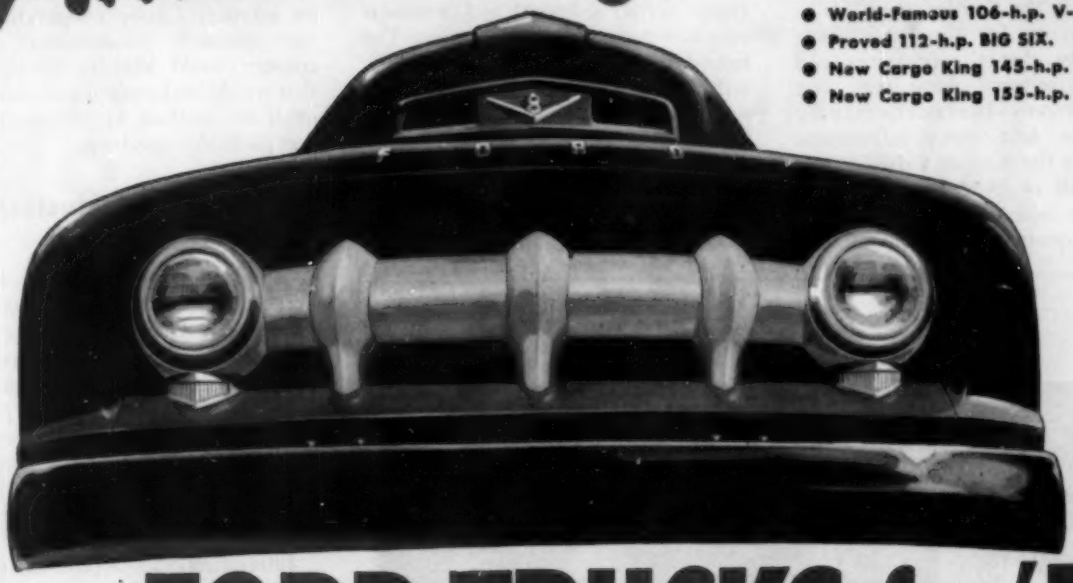
Heavy shipments of veneer packages during the third quarter resulted from large crops in the eastern areas.

(Continued on page 10)

Announcing

NOW! FIVE GREAT FORD TRUCK ENGINES!

- New 101-h.p. Cost Clipper Six.
- World-Famous 106-h.p. V-8.
- Proved 112-h.p. BIG SIX.
- New Cargo King 145-h.p. V-8.
- New Cargo King 155-h.p. V-8.



New FORD TRUCKS for '52

Engineered for modern, low-cost Speed Hauling

NOW FIVE great Ford Truck engines permit better "tailoring" of truck power to your specific hauling job! Over 275 series power combinations. Only FORD in the low-price field gives you so many power choices, series for series, in ½-ton to 3-ton trucks!

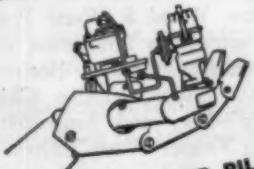
3 NEW ULTRA-MODERN HIGH-COMPRESSION, LOW-FRICTION, OVERHEAD-VALVE ENGINES!

New Ford short-stroke LOW-FRICTION design saves up to 14% on gas! Two V-8's, one Six! Fully-proved! High-compression punch with *regular* gas!

EVERY drop filtered
EVERY time around

NEW FULL-FLOW OIL FILTER

Ford's new Full-Flow oil filter removes harmful dirt and abrasives from *every* drop of oil. Result: engine life is prolonged, ring and cylinder wear reduced.



IMPROVED POWER PILOT

Another Ford exclusive in the low-price field! This proved fuel-feeding and fuel-firing system gives you the most power from the least gas.

Availability of equipment, accessories and trim as illustrated is dependent on material supply conditions.

FREE

MAIL THIS COUPON TODAY!

FORD Division of FORD MOTOR COMPANY
3262 Schaefer Road, Dearborn, Michigan

Please send me without charge or obligation, complete details on the new Ford Trucks for '52 and the 5 great Ford Truck Engines!

Full Line ☐ Light Models ☐ Heavy Duty Models ☐ Extra Heavy Duty Models ☐

Name_____
(Please print plainly)

Address_____

City_____ State_____

Check here if student ☐

See "Ford Festival" starring James Melton on NBC-TV

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TRENDS
(Continued from page 8)

A substantial increase in business was also noted in the Southwest.

The keynote for the future now seems to be that the container and packaging industry—along with our whole economy—has successfully bridged the first major adjustment period since the Korean Crisis. While the first half of 1952 may see some shortages in selected containers, there will be adequate packaging available.

UTILIZATION

New Waste Use

The February issue of Readers' Digest carries a Report to Consumers on a new rug cleaner—Glamorene. The ingredients of Glamorene are: finely milled cellulose hardwood fiber mixed with synthetic-detergent solutions and hydrocarbon and chlorinated solvents.

Glamorene is a wet, crumbly substance. Its liquid contents loosen the gut and dirt, while the hardwood cellulose fiber acts like blotting paper to absorb the dissolved dirt. Here is a most interesting new use of wood waste that has been developed by laboratory research. The versatility of wood in combination with other products to make new products is still in its infancy. Closer cooperation with the research laboratories of the country could lead to developments that would make our waste from forest offall to sawdust highly competitive, and profitable products.

Hardboard Production Increasing

The production of hardboard in the Forest Products Industry is increasing every year. One interesting development that is now taking place is the combining of hardboard plants with plywood plants. Today five plywood manufacturers are now producing hardboard, or have plants under construction with an estimated capacity of 144 million square feet (¼ inch basis).

Interesting developments of new types of hardboard are being produced and marketed. In recent issues of Wood & Wood Products we have carried reports on the development of this industry. "Hard Facts on Hardboard"—Dec. '49, Jan. '50; "Waste Away at Simpson's"—Apr. '50; "How to Evaluate Hardboard"—Aug. '50; "Fibreboard Properties"—Mar. and Apr. '51; "Board Materials From Saw, dust and Shavings"—Aug. '51; "Hardboard Speeds Furniture Production"—Oct. '51; and "Fifteen Wood Wonders Developed Since 1921"—Jan. '52.

Veneer Waste Now Profitable

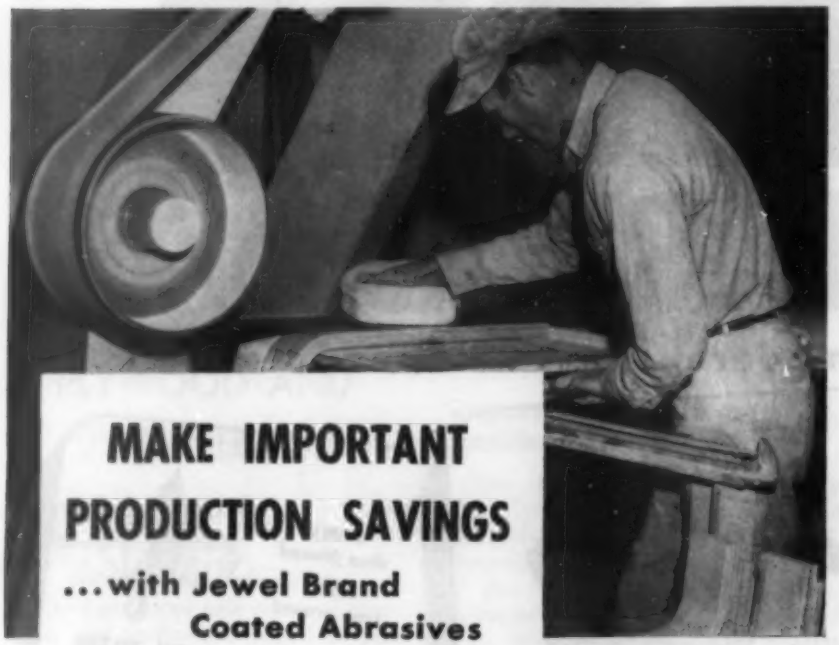
From a dollar and cents standpoint, veneer waste has become a profitable by-product. During the past year, there have been widespread installations of chippers in the plywood and veneer plants. Converting this refuse into merchantable pulp stock for pulp and paper, hardboard and softboard production. Wood & Wood Products has had some very interesting articles on the subject: "Waste Recovery"—Feb. '50; "How to Use Chippers Profitably"—May and June '51; and "Utilizing Veneer Waste"—Dec. '51.

MARKETS

More Wood for Sporting Goods

Sporting goods equipment sales are increasing each year with the rise in

(Continued on page 12)



MAKE IMPORTANT PRODUCTION SAVINGS

...with Jewel Brand Coated Abrasives

Savings of 30% and more on your abrasive costs are possible with longer-lasting, faster-cutting Jewel Brand Coated Abrasive Belts for wood finishing. Add to this the increased productivity and lower labor costs, and you can easily see why it's well worth your while to use Jewel Brand Coated Abrasives.

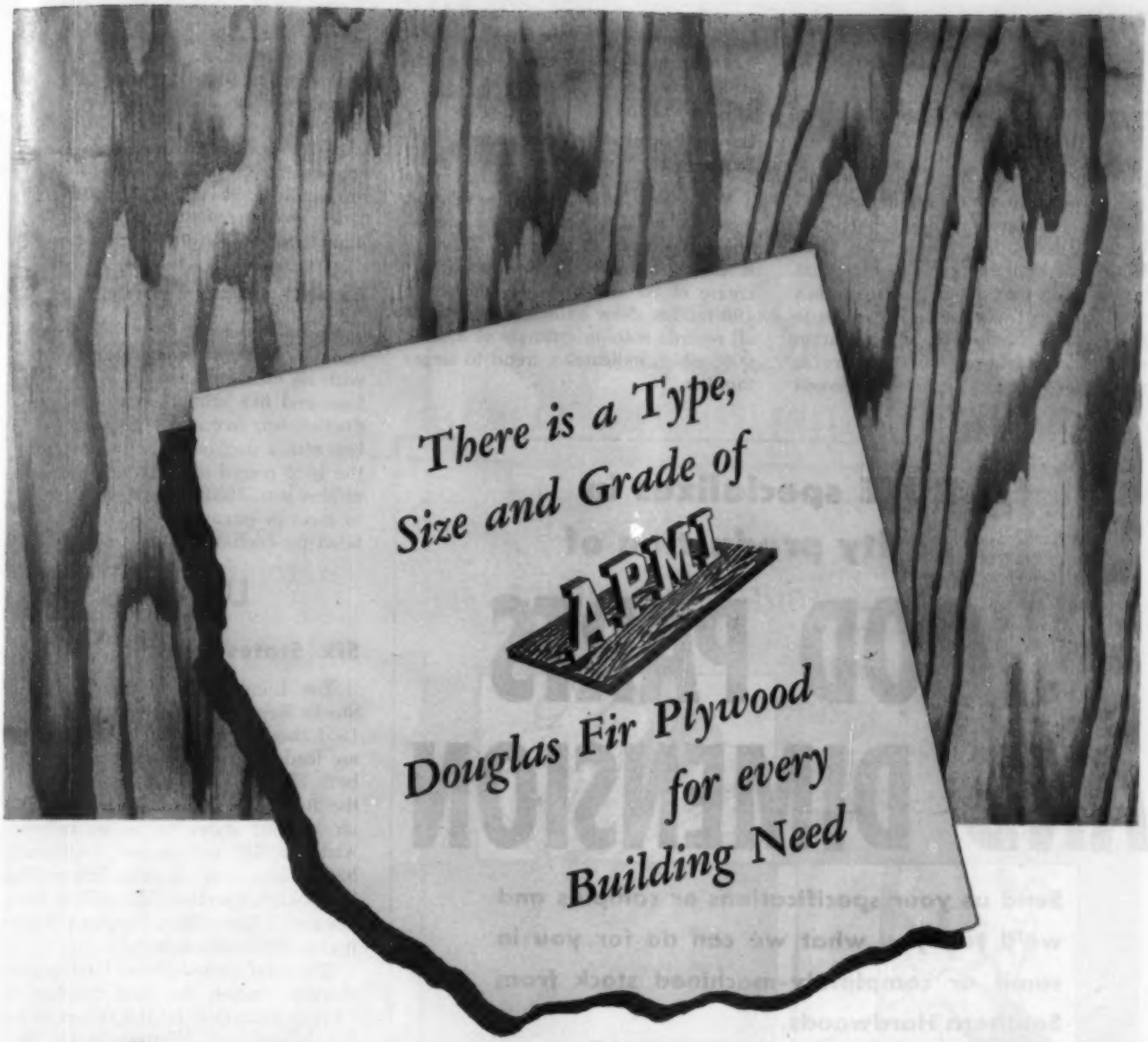
The Jewel Brand Velvet Joint, an exclusive feature with all Jewel Brand Abrasive Belts, adds many hours of productivity, since poor joints can cut belt life up to 80%.

There's a complete line of Jewel Brand Coated Abrasives, on paper, cloth and fibre, for better finishing of all types of wood. Jewel *natural* Garnet in belts and sheets, and Jewel Bondex Garnet Fibre for drum sanders, are two of the better known Jewel Brand Abrasives. For information on the complete line, write Abrasive Products, Inc., 553 Pearl St., South Braintree 85, Mass.

SHARPER, TOUGHER

Jewel Brand COATED Abrasives

CUT COSTS



As one of the oldest and largest producers in the industry, Associated makes a type, size and grade of Douglas fir plywood for every building need:

Interior-type: For walls, ceilings, cabinets, built-ins; for sheathing and subflooring.

Exterior-type: For siding, outdoor signs, farm structures, boats of all sizes and shapes.

Sea Swirl (interior and exterior). A beautiful decorative plywood for remodeling and new construction.

Plastic surfaced plywood (exterior-type): For concrete forms, siding for commercial and industrial buildings.

Plyron (interior and exterior). Plywood core between hardboard surfaces. For all types of construction; built-ins, furniture.

All APMI plywood is manufactured in the heart of the Douglas fir region of Oregon; is grademarked and trademarked; is available through branch sales warehouses in major building cities, sold by experienced plywood men. Your inquiries are invited.

BRANCH SALES WAREHOUSES:

4268 Utah Street, St. Louis, Missouri
4814 Bengal Street, Dallas, Texas
4003 Coyle Street, Houston, Texas
1026 Jay Street, Charlotte, North Carolina
111 Welborn Street, Greenville, South Carolina
925 Toland Street, San Francisco, California
Eugene, Oregon

SALES OFFICES:

31 State Street, Boston, Massachusetts
Los Angeles, California

ASSOCIATED PLYWOOD MILLS, INC.

General Offices:
Eugene, Oregon

Plywood plants at Eugene and Willamina, Oregon
Lumber mill at Roseburg, Oregon

TRENDS

(Continued from page 10)

playtime activity. Wood plays an important part in sports equipment, especially in baseball, golf, archery, bowling and other sports. The 1947 Census of Manufacturers showed that about 22.7 percent of the materials used in sport equipment was made from wood. Laminates, impregnation and other advances our industry is making in giving sport equipment manufacturers better raw materials, is helping our industry not only hold, but increase the use of wood in sports equipment.

Large Population Increase Expected

With the United States population now clocked at 155 millions, a reasonable expectancy in the next 25 years is that the total will include an increase of 35 million—a population of 190 million. New babies in 1951 beat all records with an estimate of 3,925,000, which indicates a trend to larger families.

This vast expected population increase points to a big, new home building boom in the early 60's to take care of the abnormal crop of young couples married by then.

Twenty-one percent of all homes were built in the last ten years. Forty-six percent are over 30 years old and are badly in need of repairs. This latter group represents a tremendous market for home modernization.

Expect Good TV Market

Manufacturers of TV expect a good demand for their demand during 1952, with an estimated output of between four and five million sets. 1951 production was five and one-quarter million sets, a decline of 30 percent from the 1950 record of seven and one-fifth million sets. 1952 demand is expected to meet or possibly exceed the calculated production.

LUMBER

Six States Lead

The Lumber Production and Mill Stocks Report for the first quarter of 1951 show that six states in the nation are leaders in the production of lumber. The report, which is issued by the Bureau of the Census, shows the six leading states to be as follows: Alabama, 387 million feet; California, 620 million feet; Georgia, 584 million feet; North Carolina, 553 million feet; Oregon, 1,824 million feet, and Washington, 805 million feet.

The total United States lumber production during the first quarter of 1951 is estimated by the report to be 8.4 billion feet. Western states production was 3.7 billion feet, and Eastern production was 4.7 billion feet.

TIMBER

Fabricated Timber Supply Ample

In these days of critical metal shortages, plenty of timber is available for both civilian and defense construction needs, according to the National Lumber Manufacturers Association.

As one example of the increasing civilian utilization of wood structures, the Association pointed to the trend toward the use of wood in the construction of warehouses, industrial, recreational and general commercial buildings as the answer to the nation's needs for these types of structures.

Attesting to the increasing popularity of such wooden buildings, is the

(Continued on page 54)

BRUCE specializes in quantity production of

WOOD PARTS AND DIMENSION

Send us your specifications or samples and we'll tell you what we can do for you in semi- or completely-machined stock from Southern Hardwoods.

Bruce is equipped to serve you!

- All types woodworking machines
- 5 large sawmills
- Strategic locations for timber
- 25-year experience
- Dependable quality and service

Send your inquiries to

BRUCE **E. L. BRUCE CO.**

1616 Thomas St., Memphis 1, Tenn.

"THE MOST ECONOMICAL MATERIAL WE HAVE EVER USED!"
claims one furniture manufacturer

JUST READ WHAT THESE MANUFACTURERS SAY:

"The customers of our dealers are sold on desks equipped with drawers chemically treated with Nelsonite. Nelsonite Chemical Products are doing a job for us superior to any other wood dimensional stabilizer. At no time has anyone been troubled with drawers swelling, shrinking or warping." — A DESK CO.*

"In extremely wet weather and in extremely dry weather, Nelsonized-treated drawers do not show any material change."
— B FURNITURE CO.*

"Our customers must have a finish or preservative, and we are happy to recommend anything that we believe is good. A month of hanging Nelsonized-treated green cedar in open air with plenty of hot sun and also over a heater subjected to about 100° F. for eight hours a day did not produce any checks. This result is unusual, from our experience."
— C CEDAR PRODUCTS CO.*

*Photostats of testimonials on request

NELSONIZING protects wood against humidity, old age, dirt. There is a Nelsonite formula specially compounded to obtain the specific results desired on any wood or for any end use of wood.

Nelsonite Chemical Products, Inc.
Grand Rapids 4, Mich.

TRADEMARK

Nelsonized

AGAINST WARPING, SWELLING & STICKING

THIS SEAL MEANS THE WOOD IN YOUR PRODUCT IS DIMENSIONALLY STABILIZED!

STOP WARPING
Nelsonized Wood, left, resisted warping when exposed to high humidity with untreated wood.

STOP STICKING
Nelsonizing's high anti-shrink efficiency means cabinet doors that easily and stay shut.

STOP SWELLING
Nelsonizing retards moisture pick-up. No more swollen drawers that can't be opened!

MAIL COUPON TODAY FOR SAMPLE

Nelsonite Chemical Products Inc.
226 Scribner Avenue, N.W., Grand Rapids 4, Michigan
Gentlemen:
We are interested in Nelsonizing the following wood and wood products:

Please send us sample to meet our individual specifications, at no charge.

Company _____
Address _____
City _____ Zone _____ State _____

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MARKETS

These prices are estimates made available by Mr. George Land, publisher of the *Hardwood Market Report*, and reflect prices as indicated in his copyrighted issue of February 9, 1952. Mr. Land's complete report is available weekly; those who want the entire list should contact him c/o Box 57[illegible]6, Memphis 4, Tenn.

SOUTHERN HARDWOODS

F.O.B. mills—Texas & Louisiana area—estimate of present FOB Texas & Louisiana mill point average ceiling price sales made subsequent to January 25, 1951 to consuming trade on hand-sawn Southern Hardwoods in carload quantities, random widths & lengths, rough air dried & graded in accordance with NHLA rules on inspection. Prices in dollars per M', on straight cars of upper bracket grades premiums are frequently being paid.

ASH—FIRM TEXTURE

	FAS	No. 1C	No. 2C
4/4-in.	155	108	62
6/4-in.	168	120	65
8/4-in.	180	140	70

BASSWOOD

4/4-in.	165	130	80
6/4-in.	170	135	87
8/4-in.	180	145	90

BEECH

4/4-in.	125	100	62
6/4-in.	145	110	60
8/4-in.	167	127	72

CHERRY
Same as Appalachian

RED GUM—PLAIN

	FAS	No. 1C	No. 2C
4/4-in.	200	150	70
6/4-in.	230	170	75

RED GUM—QUARTERED

4/4-in.	225	175	75
6/4-in.	250	200	90
8/4-in.	260	210	95

SAP GUM—PLAIN

4/4-in.	110	92	45
6/4-in.	140	120	
8/4-in.	160	140	

HACKBERRY

4/4-in.	112	92	67
6/4-in.	132	110	77
8/4-in.	137	112	77

HICKORY
Temporarily suspended

MAGNOLIA

4/4-in.	170	135	70
6/4-in.	185	143	84
8/4-in.	205	150	87

SOFT MAPLE—WHAD

4/4-in.	130	110	67
6/4-in.	145	120	77
8/4-in.	155	125	80

SOFT MAPLE—WHND

4/4-in.	115	90	60
6/4-in.	130	105	75
8/4-in	135	110	80

RED OAK—PLAIN

4/4-in.	180	105	61
6/4-in.	190	135	
8/4-in.	200	140	

WHITE OAK—PLAIN

4/4-in.	185	115	61
6/4-in.	195	140	
8/4-in.	205	145	

PECAN

4/4-in.	115	95	50
6/4-in.	130	110	65
8/4-in.	155	130	70

POPLAR—PLAIN

	FAS	S&S	No. 1C
4/4-in.	170	130	75
6/4-in.	185	140	87
8/4-in.	205	150	90

SYCAMORE—PLAIN

	No. 1C	No. 2C
4/4-in.	117	97	60
6/4-in.	135	105	60

TUPELO—PLAIN
TUF TEXTURE—DEEP SWAMP

4/4-in.	110	90	45
6/4-in.	140	120	
8/4-in.	160	140	

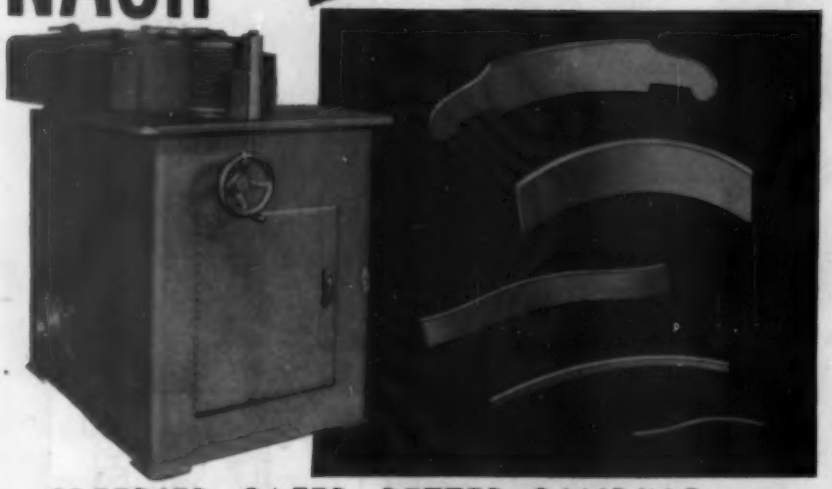
WILLOW

4/4-in.	142	120	60
6/4-in.	142	122	67
8/4-in.	150	125	70

APPALACHIAN HARDWOODS

F.O.B. mills—Johnson City, Tennessee area—estimate of present FOB Appalachian mill point average ceiling price sales made subsequent to January 25, 1951 to consuming trade of hand-sawn Appalachian hardwood in carload quantity, random widths & lengths, rough, air dried & graded in accordance with

NASH No. 85 CHAIRBACK SANDER



SPEEDIER, SAFER, BETTER SANDING OF CONCAVE and CONVEX SURFACES

Like all Nash Sanders, the No. 85 justifies itself by cost savings, and this chairback sander will save on either small or large lots.

It is designed to sand curved or serpentine stock up to 1¼" thick and 6" high, at a variable rate from 18 to 55 feet per minute. Parallelism of stock is maintained and an excellent finish produced. Will sand curvatures of 5" on an arc of 30 degrees, and 8" on an arc of 90 degrees.

ELIMINATE SLOW MANUAL SANDING

The job of sanding over a large sanding drum is not only tedious but frequently causes injury to the operator. The Nash 85 eliminates this hazard and speeds production. The only set-up required on the Nash 85 is adjustment of feed rolls to thickness of stock, and regulating pressure for desired stock removal.

WRITE today for Bulletin giving complete description and specifications.

J. M. NASH COMPANY

Dept. 85, 2359 N. 30th Street, Milwaukee 10, Wisconsin

MANUFACTURERS OF IMPROVED MODERN WOODWORKING MACHINERY
INCLUDING THE FAMOUS NASH No. 50 AUTOMATIC TURNING SANDER

NHLA rules of inspection. Prices in dollars per M'. on straight cars of upper bracket grades, premiums are frequently being paid. Basis selected for the purpose of indicating transportation costs to principal consuming markets from Johnson City, Tennessee area.

TOUGH ASH	FAS	FIF	No. 1C	No. 2C
4/4-in.	160	150	110	67
5/4-in.	180	170	122	72
8/4-in.	190	180	147	85

BASSWOOD				No. 2A
4/4-in.	180	170	130	84
5/4-in.	190	180	137	94
8/4-in.	195	185	147	96

BEECH				No. 2C
4/4-in.	145	135	110	75
5/4-in.	160	150	120	75
8/4-in.	170	160	130	80

BIRCH				
4/4-in.	205	195	140	80
6/4-in.	220	210	150	85
8/4-in.	230	220	155	90

BUCKEYE				
4/4-in.	135	125	100	65
6/4-in.	160	150	115	73
8/4-in.	165	155	120	78

CHERRY				
4/4-in.	200	190	135	80
6/4-in.	235	225	160	85
8/4-in.	250	240	170	90

CHESTNUT	FAS	No. 1C	FAS WHND	No. 1C WHND
4/4-in.	165	115	135	100
6/4-in.	170	120	140	105
8/4-in.	175	125	150	110

HICKORY	FAS	FIF	No. 1C	No. 2C
4/4-in.	125	115	78	53
6/4-in.	145	135	86	58
8/4-in.	165	155	90	60

HARD MAPLE				
4/4-in.	190	180	125	80
6/4-in.	200	190	135	84
8/4-in.	205	195	145	90

SOFT MAPLE				
4/4-in.	160	150	115	67
6/4-in.	170	160	125	69
8/4-in.	175	165	130	72

RED OAK—PLAIN			
4/4-in.	185	175	120
6/4-in.	200	190	135
8/4-in.	215	205	145

WHITE OAK—PLAIN			
4/4-in.	200	190	125
6/4-in.	220	210	145
8/4-in.	225	215	155

WHITE OAK—WHND				
4/4-in.	115	105	85	..
6/4-in.	140	130	110	..
8/4-in.	150	140	115	..

YELLOW POPLAR—PLAIN				No. 2A
4/4-in.	210	200	140	85
6/4-in.	220	210	150	93
8/4-in.	230	220	160	..

POPLAR SQUARES	FAS	No. 1C & SD
4x4-in.	245	175
6x6-in.	280	190
8x8-in.	340	240

WALNUT—STEAM TREATED	FAS 6' & up	FIF 6' & up	No. 1C	No. 2C
4/4-in.	350	305	185	80
6/4-in.	370	325	210	95
8/4-in.	385	340	235	100

Walnut list reflects average fob mill, all areas. Basing point not generally observed.

NORTHERN HARDWOODS

Estimate of present FOB Wausau, Wisconsin mill point average ceiling price sales made subsequent to January 25, 1951 to consuming trade on band-sawn Northern hardwoods in carload quantities random widths & lengths, rough air dried & graded in accordance with NHLA rules on inspection. Prices in dollars per M'.* On straight cars of upper bracket grades, premiums are frequently being paid.

BROWN ASH	FAS	No. 1C	No. 2C
4/4-in.	145	105	73
6/4-in.	155	120	83
8/4-in.	160	130	88

BASSWOOD			
4/4-in.	180	125	78
6/4-in.	190	135	88
8/4-in.	195	145	96

BEECH			
4/4-in.	145	100	68
6/4-in.	160	115	78
8/4-in.	165	120	80

BIRCH			
4/4-in.	265	145	80
6/4-in.	275	160	90
8/4-in.	280	175	100

ROCK ELM			
4/4-in.	135	115	65
6/4-in.	145	125	75
8/4-in.	150	135	80

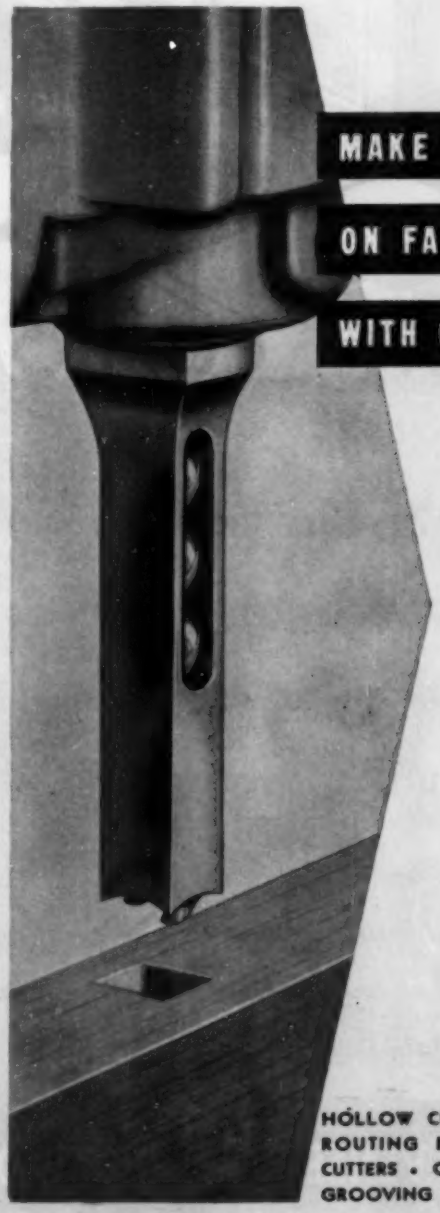
SOFT ELM			
4/4-in.	125	105	71
6/4-in.	135	115	81
8/4-in.	140	120	86

HARD MAPLE			
4/4-in.	190	130	78
6/4-in.	200	140	81
8/4-in.	205	145	82

SOFT MAPLE			
4/4-in.	155	120	72
6/4-in.	170	130	82
8/4-in.	185	140	90

RED OAK			
4/4-in.	175	125	77
6/4-in.	185	145	82
8/4-in.	195	155	85

*Air dried Northern Hardwoods are no longer available and sales presently being made cover green stock or stock only partially seasoned. Orders are being placed for stock to be cut and shipped green when accumulated.



MAKE "CLEAN" MORTISES

ON FAST SCHEDULES

WITH GREENLEE TOOLS

To make *accurate* mortises easily, swiftly and economically, equip with *high quality* GREENLEE Hollow Chisels and Bits. Long-lived and fast-clearing, these GREENLEE tools add speed to your production, *precision* finish to your products. GREENLEE Hollow Chisels and Bits are made by the originators of hollow chisel mortisers. And GREENLEE produces a complete line of these tools for hard or soft wood and all makes of machines. Write for new illustrated folder M-159 describing these and other GREENLEE tools for mortising, boring, and routing. Greenlee Tool Co., 2153 Herbert Avenue, Rockford, Illinois.

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HOLLOW CHISELS • MACHINE BITS • DRILLS
ROUTING BITS • MULTI-SPUR BITS • PLUG CUTTERS • COUNTERSINKS • MAKERS OF TECO GROOVING TOOLS FOR TIMBER CONSTRUCTION

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GUARANTEED non-warping cupboard doors

JAMESTOWN CUPBOARD DOORS

the beauty of natural Birch fitted for cabinets

For 12 years we have produced
the Jamestown Natural Birch Plywood
Cupboard Door and have yet to have
a panel returned because of warpage.

Several large manufacturers have used this product for years. MOLE-RIB PLYWOOD is being used in interior construction panels in airplanes. If your requirements call for strength and stability we would like to talk to you.

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To be out in front you will want the newest and latest equipment for your machine room. The best will be none too good. We will be glad to show you what Modern Mattison Machines can mean to you in terms of greater volume, reduced costs, and better and more accurate work. As the first step write for new free circulars.

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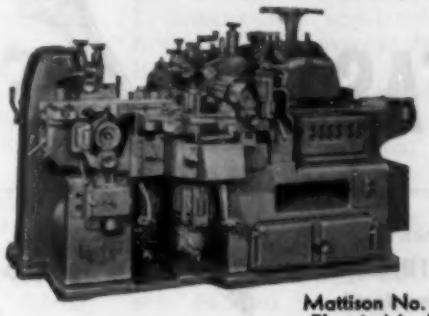
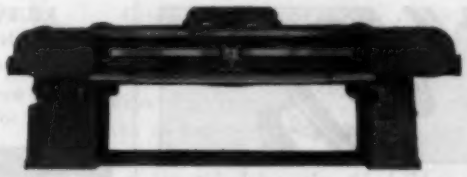


Mattison No. 276 Electric Moulder

Mattison No. 202 Fast-Feed, Straight Line Ripper

Mattison No. 57F Automatic Shaping Lathe



Mattison Machine Works, Rockford, Illinois
Please sent for Circulars on: Moulders.....Rip Saw.....
Turning Lathes.....Sanders—Power Stroke.....Hand
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City.....State.....

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FASTER FASTENER News

"When it's TWINfast it stays fast"

Up-to-the-minute pointers on speeding assembly —cutting construction costs

POWER SCREW DRIVER DRIVES SIX SCREWS IN SINGLE ASSEMBLY IN EIGHT SECONDS

Power screw drivers which automatically position the nuts on the under side of the assembly, feed the screws through the assembly, and tighten to any predetermined tension, are being used for increased speed and better assembly.

A typical setup drives six screws in a single assembly in eight seconds, including time to unload and reload the fixture.

These machines can drive cap screws as large as ⅝ in. diameter, sheet metal screws up to No. ¼, and wood screws up to No. 14, 1¾ in. long. Torques up to 70 lb. ft. are available. Also, screws as small as ⅜ in. in length may be handled.

These power screw drivers are now being used in the manufacture of automobiles, trucks, accessories, electric and radio devices, plumbing, heating and air conditioning equipment, stoves, toys, lighting fixtures, door hardware, and other items.

PARALLEL TWIN THREADS CUT DEEP AND CLEAN

Instead of the usual single thread spiraling the root, the TWIN-fast Screw has *two* threads. They start in a single, centered point, spiral the root in parallel formation, and end on opposite sides of the shank. Result, a thread pitch approximately twice as great as the pitch in ordinary screws.

The sharp, blade-like edges of these twin threads cut deeply and cleanly into the material, cutting driving time in half, greatly increasing holding power.

The greater thread pitch of TWIN-fast has a double advantage in fast, strong assembly of wood to wood, wood to plastics, wood to metal: (1) Driving time is greatly reduced. With each turn of the driver, twice as much thread enters the material. (2) Holding power is greater because only half as many turns are needed to seat the TWIN-fast Screw. The threads cut in the material are subjected to only half as much friction and wear, thus reducing the danger of stripping.

CENTERED POINT INSURES QUICK START, BALANCED DRIVING

TWIN-fast threads come together in a single sharp point at the exact axial center. The screw enters the material straight on —and in line with the driver. This contrasts with the eccentric gimlet point of the ordinary wood screw which is located off-center and enters the material at an angle.

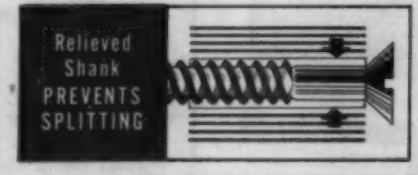
This centered point means a quick, sure, self-centering start since the TWIN-fast

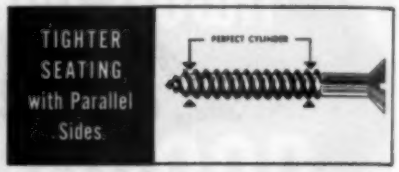
Screw automatically heads in the right direction. It also keeps the screw in line so that there is no misalignment or displacement of assembly components.

RELIEVED SHANK PREVENTS SPLITTING AND WEDGE ACTION

Relieving the shank of a screw eliminates the wedge action which might otherwise split soft and brittle woods and tend to weaken the seating by pulling material away from the threads. Relieving also prevents the stripping that often occurs with screws not having a relieved shank.

The relieved shank of TWIN-fast Screws provides a stronger fastening.





PARALLEL SIDES GIVE GREATER THREAD CONTACT

The perfectly cylindrical body throughout the threaded length of a TWIN-fast Screw, except for the taper at the point, gives it greater thread contact, tighter holding, and also often allows the use of fewer and smaller screws.

For additional fastener information and your copy of the new TWIN-fast bulletin, send the coupon to any of these firms:

American Screw Company
Willimantic, Conn.

Blake & Johnson Company
Waterville 48, Conn.

Central Screw Company
Chicago, Illinois, and
Keene, New Hampshire

Continental Screw Company
New Bedford, Mass.

National Screw & Mfg. Co.
Cleveland, Ohio, and
Los Angeles, Calif.

Stronghold Pacific Corp.
Downey (Los Angeles) Calif.

Stronghold Screw Products, Inc.
Chicago, Illinois

Southington Hardware Mfg. Co.
Southington, Conn.

Townsend Company
New Brighton, Pa.

TWINfast

Reg. U. S. Pat. Off.
Pat. Nos. 2,314,391—2,314,390—2,373,878—2,373,948 and 2,483,186

The Faster-Driving... Cost-Cutting Fastener

Please send copy of the new TWIN-fast bulletin.

Name_____

Firm_____

Address_____

City_____ Zone____ State_____

Names... Events

Deaths

CRAWFORD S. WYMOND, one of the incorporators of Chess & Wymond, cooperage firm, died in Louisville, Ky., February 1, 1952, at the age of 96. With his brother, the late W. S. Wymond and three other men, he organized the company in 1876.

ALBERT A. LEGETT, 47, Mississippi State Forester, died of a heart attack. He was widely known as a specialist in soil conservation work.

HENRY HODGE, one of the oldest and best known District Foresters of the Virginia Forest Service, died at his home in Salem.

WILL ORTH, 62, Vice-President of the JONES & ORTH CUTTER HEAD CO., of Seattle and Memphis, passed away in Seattle January 24, 1952. He was co-founder of the company which was organized in 1923.

Retirements

DR. C. AUDREY RICHARDS, who has contributed more than 34 years of service to the forest industry, retired from the Forest Products Laboratory, Madison, Wis., January 31, 1952.

H. M. SEAMAN, Executive Vice-President of the Kirby Lumber Co., Houston, Texas, retired as of December 31, 1951. Mr. Seaman was a former President of the Southern Pine Association.

C. H. A. SCHWARZ, owner of the Schwarz Basket Factory at Curtis and North Quincy, Kas., has retired from the active management of his company which he founded 46 years ago.

Personnel Changes

DAVID GRAHAM, formerly Financial Vice-President of Weyerhaeuser Timber Co., has taken over similar duties with the Standard Oil Co. of Indiana.

FRED M. CLARIDGE, formerly Assistant State Forester of North Carolina, was installed January 28, 1952, as State Forester.

R. D. PAULEY has been appointed Manager, Special Products Division, of the Weyerhaeuser Timber Co. He will coordinate sales and production of Silvacon bark and Silvacel whole wood fiber products, and Fiberboard products to be produced at the Klamath Falls plant.

PROF. FRED E. DICKINSON, instructor in logging, lumber and seasoning subjects at the School of Forestry, Yale University, has been appointed to the School of Natural Resources, University of Michigan, Ann Arbor.

JOHN R. CALKINS has been named Lake States Manager of American Forest Products Industries, with headquarters at 59 E. Van Buren St., Chicago 5, Ill.

M. K. PETERSON has been appointed Manager of the Boston Sales and Distribution Unit of the United States Plywood Corp.

KENNETH C. TOWE was elected President of the American Cyanamid Co., New York, N. Y., He succeeds the late RAYMOND C. GAUGLER, who died suddenly on January 11th. FRED J. STICKLE was appointed Eastern Regional Sales Manager of the Coating Resins Department.

EDWIN R. BUTLER, Assistant Managing Director of American Forest Products Industries, Inc., resigned from his position, effective February 1, 1952.

WILLIAM P. GILLESPIE, Sales Manager of the power tool division of Henry Disston & Sons, Inc., Philadelphia, Pa., has been appointed Sales

(Continued on page 22)

ONCE you've used the National Casein glue formula we tell you will do your job best — you, too, will agree with the customer quoted above.

We carry no magic wands . . . pull no rabbits out of hats — *never tell you that any one National Casein glue formula will do EVERY adhesive job.*

We welcome the tough assignment — for small orders as well as large . . . assure you same-day shipment of nominal quantities — just a little longer for your tank car or tank truck orders.

Try us once — "Casie," "Resie," "Phenie," "Fortie," or any other NATIONAL CASEIN adhesives. You'll stick with them because they *stick* for you.

National Casein

601 W. 80th St., Chicago 20, Ill. • Broad and Fulton Sts., Riverton, N. J.

NAMES . . . EVENTS

(Continued from page 21)

Manager of the hardware division of the company.

RAY C. HAIMBAUGH has been appointed Vice-President in Charge of Merchandising of the North Tonawanda Division of the Rudolph Wurlitzer Co., Buffalo, N. Y., and CLINTON D. ST. CLAIR to the position of manager of the same division.

EVERETT M. HICKS was elected Vice-President and a Director of the Norton Co., Worcester, Mass. He remains manager of the company's Grinding Machine Division. Directors of the company re-elected GEORGE N. JEPPSON, Chairman of the Board, and MILTON P. HIGGINS, President.

VERNON W. MALLOY has been appointed Manager, Atlantic Coast Sales, with offices in Baltimore, for The Pacific Lumber Co., 35 E. Wacker Drive, Chicago 1, Ill.

H. O. SUGG, Manager of the Minneapolis Division, has assumed management of the newly acquired Division at New London, Wis., (formerly the American Plywood Corp.) for Curtis Companies, Inc., Clinton, Iowa. C. R. HUNSICKER will succeed Mr. Sugg as Manager at Minneapolis, and L. L. SODEMAN will serve temporarily as Assistant Manager at Minneapolis during the transition period from Mr. Sugg to Mr. Hunsicker.

HERBERT W. ANGELL, of the technical staff of the American Lumber and Treating Co., Chicago, has been appointed Technical Director of the company.

Five promotions were made in the western operations of THE LONGBELL LUMBER CO., as follows: HARRY G. KELSEY became General Manager of the Vaughn Division at Vaughn, Ore.; THEO. A. DEAL was named Assistant General Manager of the Longview Division; A. J. MYERS became Assistant General Manager of the Gardner, Lumber Co., Gardner, Ore., a wholly owned subsidiary; CLYDE STARLING was promoted to Manager of the Wholesale Dept. and has moved to the company offices in Longview; J. E. ADAMS has been promoted to Superintendent of the Longview manufacturing plant.

Expansions

RAYONIER, INC., plans to construct a $25 million pulp mill at Doctortown in southeastern Georgia. This will be Rayonier's fifth mill and will have an annual capacity of superior grades of wood cellulose. The company now owns or controls 400,000 acres of timberlands in the Georgia and Florida areas.

UNITED STATES PLYWOOD CORP., New York City, has opened a sales and distribution unit at 5914 "R" St., Sacramento, Cal. This is the 34th such unit operated by the company.

The Arcade Manufacturing Division of the ROCKWELL MANUFACTURING Co. has moved its operations to Tupelo, Mississippi, and is now known as the Tupelo Division.

OLIN INDUSTRIES, with headquarters in East Alton, Ill., has officially taken over the assets of FROST LUMBER INDUSTRIES, INC., Shreveport, La. To be known hereafter as Frost Lumber Industries Division of Olin Industries, the long established Shreveport lumber company will serve its customers with its present management and personnel.

BLADE MANUFACTURING CO., Columbus, Ohio, announced the completion of its new concrete block building constructed as a part of the present plant structure and covering 2400 square feet.

MINNESOTA MINING & MFG. CO. an-

(Continued on page 51)

the modern design
for increasing production of your veneering and laminating operations
The New
VB hot press
Check ALL these "Years Ahead" features that give you . . . . .
ACTUAL PRODUCTION ADVANTAGES
The modern design of the "VB" Press gives you savings in glue, veneer and labor. After-drying storage space is eliminated and the smoother surface of panels produced eliminates sanding and finishing costs. Compactly constructed, the "VB" Press requires no pit; giving the user a wide choice of placement for more efficient production.
Write for Illustrated Bulletin
"VB" Hydraulic Presses are available in single, two, three or four openings.
* ALL ENCLOSED FRAME
* ALL WELDED STEAM HEATED PLATENS
* PRE-ADJUSTED WORKING PRESSURE
* COMPACT HYDRAULIC SYSTEM
* AUTOMATIC CONTROL PANEL
V.B Berthelsen ENGINEERING WORKS, INC.
P. O. BOX 1423 • LOCKPORT ROAD • JOLIET, ILLINOIS

"Industry Statesman . . ."

"Dean of Wood Research . . ."

"Three decades of Southern Pine . . ."

Wood Salutes

With this issue, we are saluting three more top rank executives, each of whom is contributing his expert knowledge and experience in an important department of the forest products industries.

Ray C. DuBrucq

Mr. DuBrucq is a rotund, chain cigar smoking executive who has a great fondness for very bright ties. Claiming that he only smokes very small cigars because they don't hurt him any, DuBrucq has been a salesman, a manufacturing man, and a top management executive during his well-rounded business career. He has operated manufacturing plants for the Rockwell Manufacturing Company as well as selling woodworking machines in the field.

He is famous for being one of the world's loudest snorers, and on business trips or the conventions when he has been assigned a hotel room with a business associate, the deep resonance of his snoring (due to his girth) has been known to keep his hotel roommate awake all night.

He has traveled widely and sold in all parts of the country, including North Carolina, the heart of the furniture making belt. DuBrucq is an ardent sports fan, and when he operated the Crescent Machine Division of the Rockwell Manufacturing Company in Leetonia, Ohio, he was an active supporter of the Cleveland Browns football team and the base-

(Continued on page 40)

George M. Hunt

George M. Hunt was born at Salem, Oregon, on July 26, 1884. In 1911 he graduated from the University of California with a B. S. degree in chemistry.

He entered the Forest Service in July 1911 at San Francisco. He transferred to the Forest Products Laboratory, Madison, Wis., in October 1913, and was assigned to the Wood Preservation Division. He was chief of that division from 1919 to 1944, when he became Assistant Director of the Laboratory. Mr. Hunt, through his research at the Laboratory, industry studies in this country and Europe, and his writings and reports, has become recognized both here and abroad as an authority on wood preservation, fireproofing, glued laminated construction, glues and plywoods, and wood finishes. He is the author of numerous technical publications and co-author of the well-known text, "Wood Preservation."

Since becoming Director of the Laboratory on March 1, 1946, Mr. Hunt has, among other things, dealt with foresters in federal, state, and private service, in matters involving the interrelationship of silviculture, harvesting of forest products, and wood utilization. He has been a member of the Society since 1921.

Mr. Hunt's retirement from the Directorship of the Forest Products Laboratory became effective March 31, 1951.

H. C. Berckes

"We know that the present and the future of Southern Pine is in good hands. For behind the Southern Pine story—behind its quality, its forest growth, its achievements—are the men of Pine. In cooperation with nature, they have made this record possible. The story of Southern Pine will never be completed, for the men of Pine live that story every day."

When H. C. Berckes penned these words, he was speaking of the men who manufacture Southern Pine. Anyone who has watched the leadership Herb Berckes has given the Southern Pine industry, however, may well have phrased these expressions as a tribute to Mr. Berckes himself. For, as secretary-manager of Southern Pine Association, he has felt the pulsebeat of Southern lumbering for more than three decades and has helped lead the industry through depression as well as

(Continued on page 40)

Accurate glue joints

. . . direct from the saw!

High speed rough sawing, or high speed precision accuracy in cutting straight and hollow joints, it's all one to the G. M. Diehl No. 750 Rip Saw.

For wherever it replaces other equipment, this massive, precision-built machine is setting efficiency and production records. The No. 750 incorporates all the proved features of its predecessors plus many improvements, such as wider tables, higher standard speeds and friction bearings throughout.

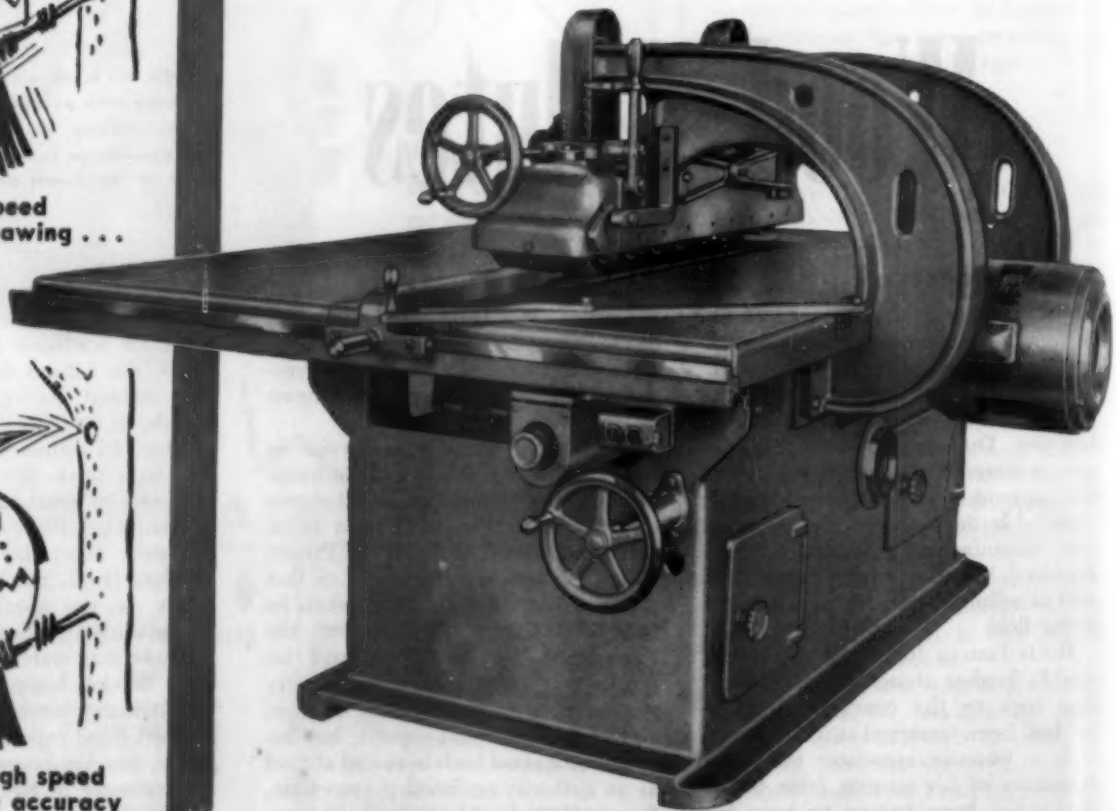
The massive welded base absorbs vibration. All driving equipment is protected from sawdust. The heavy pressure arms are capable of maintaining pressure with a 1500% overload, to assure positive precision at all times.

These are a few reasons why the No. 750 is becoming the standard in heavy-duty rip sawing, just as was its predecessor, the Diehl No. 75.

See your representative, or write the factory today, for complete details on how to obtain accurate glue joints direct from the saw—with the Diehl No. 750.

High speed *rough* sawing . . .

. . . or high speed *precision* accuracy



G. M. Diehl No. 750 Rip Saw

On the Banks of the Wabash

THE G. M. **Diehl** MACHINE WORKS, INC.

WABASH, INDIANA • U.S.A.

Turn also to page 36 to find
list of specifications

Here Are the Latest Official Facts on U.S. Government Specifications on Wood & Wood Products

by J. L. STEARNS

Manufacturing wood products for Uncle Sam is a matter of making the product the way *he* wants it; and he says *how* in no uncertain terms through the medium of specifications.

There are thousands of government specifications for items containing wood, and tens of thousands dealing with other products. In the Washington headquarters of Timber Engineering Company a staff of wood technologists and engineers is busily engaged in sorting out the principal wood specifications and reviewing these. The work which is being done under contract with the Corps of Engineers at this writing is approximately 50% complete. It is anticipated that the present contract—to review one thousand selected specifications dealing with fabricated wood products—will be finished by the early Fall of 1952.

In reviewing these specifications close contact is being maintained with all segments of the wood product industry. All known lumber and wood product trade association secretaries are being regularly supplied with mimeographed lists giving titles and numbers of the specifications coming up for review each month.

The principal purpose of this review is to recommend the greatest number of wood species suitable for a given item and the lowest grade or quality of wood which will meet the requirements without impairing the strength, serviceability, or appearance of the finished product; particularly to meet wartime needs. In addition, the proper adhesives and wood preservative treatments are covered by reference to the proper applicable specification. Whenever solid wood parts are specified in instances where laminated parts would be preferable recommendations are submitted accordingly.

The results of this work have already proven helpful to both the government and the wood industry. To cite one example, the Air Force needed several thousand tables. The specification under which the table legs were to be built limited the manufacturer to kiln dried, clear, hard maple, 2" x 2" net (no laminating). This meant 10/4 lumber, and there probably was not enough kiln dried 10/4 maple in the country to fill the order on time. The reviewing staff promptly recommended glued-up construction, additional suitable species, and the inclusion of certain natural defects which would not effect the strength or serviceability of the tables. As a result, the Air Force received the tables sooner, and at less cost to the taxpayers than they would have under the original specification.

In a broader sense the review of wood product specifications is aimed toward the conservation of our forest resources. There is an abundant supply of lumber, as we all know, but it is not all clear wood in the top grade. Most of it contains a certain proportion of knots, and other natural defects. The forests contain many more species than we have been accustomed to using. Some of these woods are known to be suitable alternates for the more commonly used kinds. Lower grades are, more often than not, satisfactory for all but the most exacting purposes.

The wood industries are learning, through engineering skill, wood technology, and knowledge of the use of modern wood adhesives in laminating, to utilize our lower grades of lumber for purposes that at one time only clear wood was considered suitable. By utilizing the lower grades of lumber more extensively in non-critical products like furniture, etc., we can use the upper grades to meet the requirements for more critical military items, such as ships, guns, trucks, and combat equipment.

Most all government specifications follow a similar pattern. They give the number, date and title, followed by statements to the effect that the specification has been approved by the various military departments, what the specification consists of, and where copies can be obtained. The main body of the specification is made up of paragraphs and sub-paragraphs, usually starting with a list of applicable specifications. These automatically "form a part" of the main specification and their importance should not be underestimated. For instance, one of the frequently encountered applicable specifications is MIL-P-66A (Plywood, Flat Panel). Whenever plywood forms a part of the product this specification is usually found in the "applicable specifications" list. However, the manufacturer, upon obtaining MIL-P-66A, finds that this simply refers him to Commercial Standards CS 35 on hardwood plywood, and CS 45 on Douglas Fir plywood, in which publications the grades are described. The grades for Marine and fire-retardant treated plywood, on the other hand, are contained in MIL-P-66A, together with testing procedures. Therefore, the manufacturer of a military product in which plywood is used should obtain copies of the commereial standard as well as the military specification on plywood.

If there is any gluing involved in the specification on a wood product then one or more of the 24 government specifications dealing with adhesives should be obtained as indicated. Likewise there are 38 general specifications on packaging and containers (not to mention hundreds of specifications for packing certain individual items).

There are five specifications on pallets, 22 on preservative treatments, and 43 others dealing with lumber for

(Continued on page 36)

Photos courtesy of Rilco Laminated Products

Practical use of laminated wood for structural framing members is only fifteen years old in United States. In that time vast gains have been made. This introductory article will be followed by others which explore the details of engineering and manufacturing methods employed in this fascinating wood use.

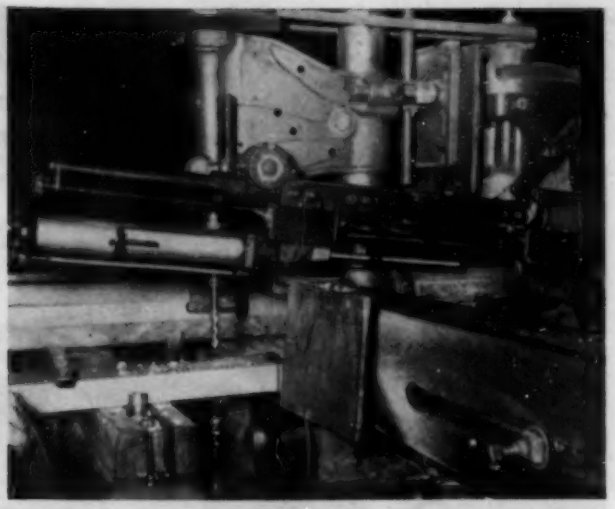
What do you know about glued, Laminated Members?

Little did Otto Hetzer of Weimer, Germany dream he was starting a vast new industry when he first experimented with laminated wood construction at the turn of the century. Early European uses of glued laminated construction appeared in the form of bridges, railway shop and station platform roofs. These installations were inspected by the late Mr. T. R. C. Wilson of the U. S. D. A. Forest Products Laboratory, who found them in sound condition after nearly 50 years of service. He returned to the laboratory at Madison, Wisconsin, and supervised extensive research in glued lamination.

Glued, laminated structural members are directed to three markets: rafters for all types of farm buildings; arches and trusses for churches,

(Continued on page 71)

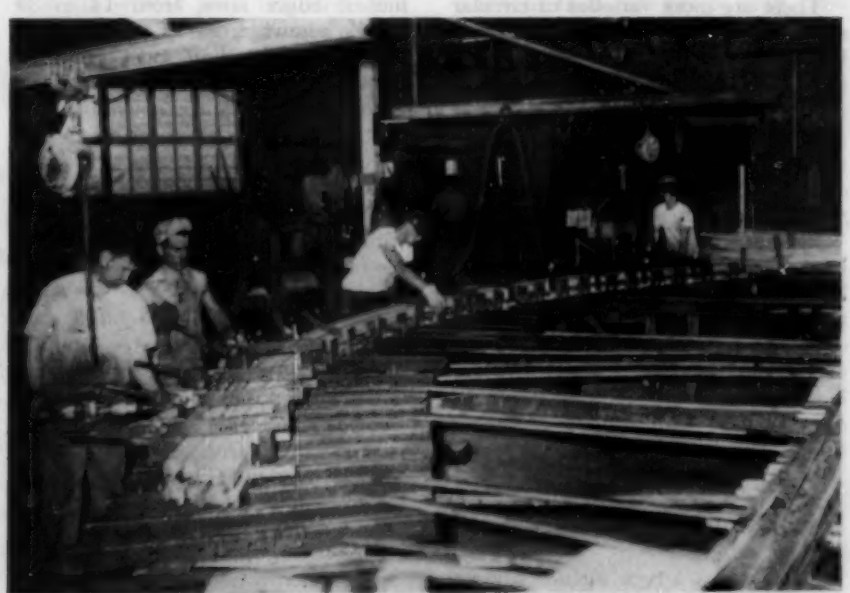
SPECIAL WOOD products have been a by-product of laminated construction. This is a flare case.



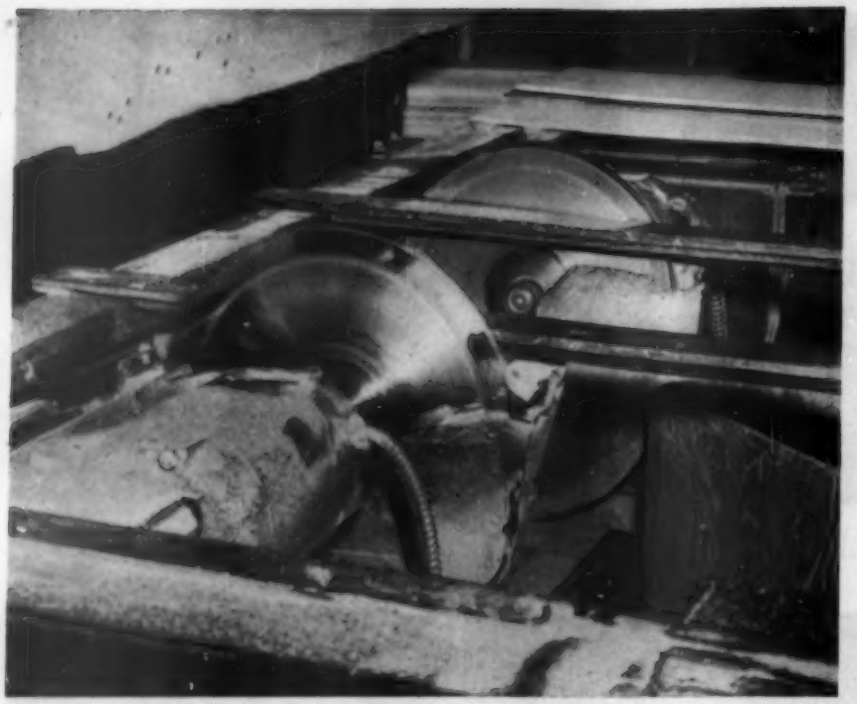
FABRICATING EQUIPMENT has been refined to make members more economical. Note drills and cut-off.

NUMEROUS DESIGN and manufacturing techniques have been developed in past decade. Pregluing of scarf joints (left) better gluing methods (center) and more efficient joints (right) have helped increase of laminated framing members.

TODAY'S HEEL JOINT on bowstring truss compared to old one (across page) shows design improvement. Use of modern shear plates and split rings make this economical design possible.



FACTORY METHODS have been constantly improved through the refinement of details and working out of labor short cuts. Here men use air power to speed tightening of clamps.



Let's Look at Circular Saw Maintenance Problems

Part 2

Numerous Sizes and Kinds of Circular Saws Cause many maintenance problems. In this article Paul Graham tells the equipment needed to keep your saws in first class shape.

There are more varieties of circular saws than Heinz has in pickles used for cutting wood, made in all sizes from 4 to 84 inches and in solid tooth and inserted tooth form, but they can generally be divided according to type—rip saws, cross-cut saws and combination saws to set up equipment requirements for solid tooth saws.

Inserted tooth saws are confined to log rip or head saws used to cut boards or construction timbers from the log and large cut-off saws used to cut large logs, heavy timber and bolts to specified lengths, or in cutting off logs for pulp. Both of these saws require special maintenance treatment but use similar saw fitting equipment.

Solid Tooth Saws

Rip saws as a type include log rip or head saws used on the circle saw mill, ranging from 48 to 72 inches in diameter; bolting saws, from 42 to 48 inches; edger saws, from 14 to 30 inches; resaws, from 12 to 40 inches; shingle and heading saws, from 36 to 60 inches; glue joint rip saws, from 12 to 18 inches; and conventional rip saws, usually used in sizes from 8 to 30 inches although sizes up to 64 inches are available for special ripping jobs. All cut with a planing action with the teeth sharpened square across the face to permit a straight cut down the length of the stock.

Cross-cut saws include cut-off saws or slashers of large diameter, from 32 to 84 inches, used in sawmills, veneer mills, bolting mills, pulpwood mills, shingle mills and cooperage plants; trimmer saws, from 8 to 24 inches, used in planing mills; mitre and trim saws, from 6 to 18 inches, used in furniture plants, millwork shops and other woodworking factories. These saws cut across the grain with a scraping action and the teeth are usually beveled like those of the narrow scroll band saw.

Combination saws are usually of small diameter, ranging from 6 to 24 inches, used for smooth cutting and include such saws as planer saws, hollow ground and flat ground combination saws, novelty saws, and dado and grooving saws. These saws are often used for cutting both with and across the grain and usually carry both cross-cutting and ripping teeth, arranged in gangs made up of a series of cutting teeth and a raker or planing tooth.

Standard Operations

The operations usually regarded as standard in circular saw fittings are jointing or rounding, gumming by filing or grinding, setting or swaging, and sharpening by filing or grinding. Benching required by circular saws, such as hammering for leveling and tensioning, is quite tricky and is regarded by many plants as an operation best handled by the saw specialist or saw maker. Special types of circular saws also require other special treatments.

While it is not absolutely necessary to joint every time a circular saw is sharpened, the saw must be perfectly round to do its best cutting and jointing can be done in a short period of time. This jointing can be done while the saw is mounted on the machine, using a carborundum stone or a piece of emery wheel so the teeth are just touched lightly by the abrasive stone, or may be done at the bench using special mounts, vises and jointing attachments. A very popular device is a guide and rounder which operates as simply as a saw guide. It is adjustable and reversible and carries a round abrasive stone in a holder that may be positioned and locked against the edge of the saw.

Even though automatic sharpening machines are now available to suit almost any type of saw, there is probably more hand filing done on circular saws than any other type of saw. Saw clamps or saw vises used in filing are made with two jaws: the back jaw stationary and in one piece, which mounts the positioning spindle or arbor, and the front jaw, properly hinged to permit placing and removing the saw on the arbor. The arbor may be threaded to permit the vise to be tightened by a wing nut, or some vises use a special threaded lever which fits into a threaded hole in the back jaw.

Special Vices

Many special vises have also been developed for hand filing. One much

used for filing small saws has a clamping unit which hooks over the top of the rim. Others are specially arranged for use in jointing. A unique swivel vise designed to make hand filing easier incorporates various tilting adjustments. The base fastens down to the bench and has the jaw assembly trunnioned to the front of the base. A sliding support arm is trunnioned to the rear vise jaw which is fitted at its lower end with a sliding foot so designed that it is adjustable in a slot in the base and can be fastened securely at any point by means of a hand screw. This arrangement allows the vise to be tilted as required for filing different tooth bevels and permits the filer to use his file in the conventional horizontal plane.

After jointing and many sharpenings, the teeth of the circular saw become worn and the gullets get shallow and have to be ground or filed to their original depth. This operation is called gumming. Gumming is always done after jointing and its main purpose is to shape the front of the teeth and make the gullet deeper. The shape of the gullet required governs the file used in hand filing but it is customary to first clean out the gullets with a rat tail file and then use a mill file with round edges for gumming.

Gumming Machines

Saw gumming as done in most production plants today employs the use of semi-automatic or fully automatic gumming machines, ranging from the small bench machine requiring manual operation to the large automatic gummers which incorporate devices to feed the saw to the grinding wheel tooth by tooth, and mount cams to raise and lower the grinding wheel at the proper angle to form the desired shape of tooth.

Regardless of the type used, the saw gumming machine must have proper provisions for adjusting and stopping the saw so that all gullets will be cut at the same angle and length, that is, when the saw is pushed forward against the grinding wheel edge, its forward motion should be so controlled by the stop mechanism that all gullets are automatically cut to a uniform depth. In most of these machines the grinding wheel also grinds the front of the teeth at the same time it grinds the gullets and the edge of the wheel is often selected or dressed to fit the shape of the gullets as well.

Since the same machines are used for both sharpening and gumming, detailed description will be given in the discussion on sharpening.

Setting and Swaging

Setting and swaging the teeth of a circular saw are similar operations to those used on bandsaws and use much the same type of equipment. Flat ground cross-cut and trim saws are usually limited to spring setting but a swaged tooth generally gives better results on rip saws and larger headsaws. Hollow ground saws will usually do good work without any set but in larger diameters a little set in the teeth will make for better cutting.

The various tools used for circular saw settings are all patterned either on the hand spring set, of the type used to set hand saw teeth, or the anvil and stake set. The hand spring set is a combination tool incorporating some kind of stop gauge attachment to regulate the amount of set. This gauge attachment may be adjusted to preset it to the desired clearance. Graduated slots govern the depth of the set which correspond to the gauge of the saw teeth on which they are to be used.

Spring Sets for Light Saws

These hand spring sets are designed for use only on lighter gauge saws. In operation the set is placed on the tooth and dropped until the point of the tooth touches the bottom of the slot. The tooth is then bent over in the desired direction until the gauge touches the side of the saw. When the gauge fits the tooth and is properly operated, it springs the tooth with a slight twist to leave the face of the tooth out a trifle more than the body.

The anvil and stake set consists of a small beveled anvil mounted on a cast-iron base at one end and a sliding pin in a slot in the base at the other. A cone-shaped casting on this pin provides centering arbor holes of different diameters and adjustment of pin position in the slot permits accommodation of saws of different diameters.

The saw to be set is placed upon the stake and adjusted so the set will extend from one-third to one-quarter the distance down the tooth. The beveled anvil is adjusted to produce the desired set and the teeth are set either directly with a setting hammer, striking a punch fixed over the anvil, or by means of a handle operating trip hammer. Some of these saw sets also incorporate a feed finger to stop each tooth in exactly the same position on the anvil.

Swages used on circular saws are similar in design and action to those used for swaging large band saws and include the bar and hammer or upset swage and the various types of machine lever swages. The bar and hammer or upset swage is not as effective as the machine swage as it does not draw out the tooth and preserve the hook. This type of swage is little used in the modern production plant.

Positioning Lever Swage

The lever machine swage for circular saws is properly arranged to go around the perimeter of the blade instead of straight across as in its band saw application. The lever and die action is the same and the swage is clamped on the saw with clamp screws far enough down so that screw marks will not work into the swaged point. It is fitted with an adjustable back stop and proper provision is made to feed the swage head from tooth to tooth.

QUALITY SAWS deserve top maintenance care.....

TABLE 1

Results Obtained in Recovery of Solvent from 2" x 8" Southern Pine Lumber Treated with Copper Naphthenate in Six Different Solvents

Solvent	Net Retention of Treating Solution Lbs/Cu. Ft.*	Penetration of Sapwood %	Solvent Recovery by the Vapor Process: Intermittent Heating in Vapor Total Hrs.	Vapor Temp. °F.	Intermittent Vacuum Periods Total Hrs.	Retention Found after Processing: Copper Naphthenate Lbs./Cu. Ft.	Solvent Lbs./Cu. Ft.
A. Aliphatic Petroleum Solvents							
VM & P Naphtha	6.53	100	No Recovery of Solvent			0.88	5.11
	....	100	3	245	3	0.63	0.21
Stoddard Solvent	5.97	100	No Recovery of Solvent			0.88	6.08
	6.08	100	2½	256	2½	0.63	0.21
B. Chlorinated Solvents							
Trichloroethylene	12.80	100	No Recovery of Solvent			1.00	11.27
	15.14	100	2½	189	2½	0.63	1.17
Perchloroethylene	12.15	100	No Recovery of Solvent			0.88	14.17
	12.93	100	2	250	2	0.63	0.27
C. Aromatic Coal Tar Solvents							
Toluol	7.11	100	No Recovery of Solvent			0.75	6.16
	8.87	100	2½	233	2½	0.63	0.47
Xylol	6.07	100	No Recovery of Solvent			0.75	6.69
	5.76	100	2	266	2	0.50	0.26

*Strength of treating solution with petroleum and coal tar solvents approx. 9.4% copper naphthenate.
*Strength of treating solution with chlorinated solvents approx. 5.6% copper naphthenate

Tests show practicality of Solvent Recovery

Among advantages when new method is used are the recovery of the solvent itself plus the better paintability of the wood thus treated. Some oil solvents can be nearly completely recovered.

Among the advantages that are sought in the pressure treatment of lumber with water soluble or oil soluble chemicals, instead of with creosote, is that of improved paintability. As numerous tests have demonstrated, (1), (2), (3), (4), it is virtually impossible to find paints that will give even moderate service life without discoloration when applied to creosoted wood. By the use of water soluble preservatives, this objection is largely overcome. However, in the case of oil borne preservatives, this desired advantage has not been fully obtained largely because of the nature of the solvent. When these materials are used for the pressure treatment of lumber, considerable difficulty has been met in attempting to obtain satisfactory paintability despite the employment of the very lightest of solvent vehicles. Even the practice of allowing the wood to stand for relatively long periods of time before painting, in order to allow the solvent to escape, or the exuded preservative to dry out, has not completely eliminated the subsequent discoloration of the paint coat. This is particularly true in the case of areas over heartwood and knots.

In the course of a series of experiments directed toward recovery of solvents from wood pressure treated with oil borne preservatives, a method has been developed which not only recovers the solvent but also produces satisfactorily paintable wood, even when freshly impregnated.

The tests were carried out in the research laboratory of Taylor-Colquitt Co. in cooperation with the Cuprinol Division-Darworth, Inc., suppliers of Cuprinol copper naphthenate, and with the Electrochemicals Dept. of E. I. DuPont de Nemours and Co., who supplied chlorinated solvents

Working with copper naphthenate dissolved in 6 different solvents; VM&P naphtha, Stoddard solvent, Trichloroethylene and Perchloroethylene, Toluol and Xylol; it was found that practically complete recovery of the solvent vehicle from the copper naphthenate treated lumber could be obtained in a very short time by employing a modification of the well known Vapor-Drying Process as the means of solvent recovery. The wood after being subjected to the solvent recovery process was found to be completely free of objectionable deposits and in a condition that made it even more satisfactory than untreated pine wood from the standpoint of paintability, since not only had the sticky surface deposits of copper naphthenate been removed but also the natural resins that are normally present in pine. Comparative paintability tests run on matched charges of boards that had been subjected to pressure treatment with copper naphthenate in a given solvent, with others from which the solvent had been re-

(Continued on page 38)

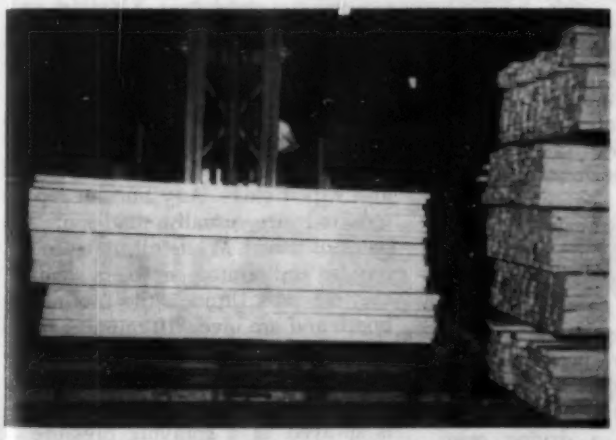
LUMBER IS STORED as much as four or five packages high when this system is used. Permanent track is laid on cement to carry dry kiln cars.

TEMPORARY TRACK is laid in aisle when lumber is to be taken from or added to pile. Bolts are slipped through strap irons to secure joints while moving trucks.

Here's a Way to Store Your Lumber on Wheels

FORK LIFT picks up load which has been delivered by straddle truck. Minimum turning space is needed when this storage system is used.

R. W. JENKINS, president of John Bader Lumber Company, Chicago, says: We've tried the system for a year. It's so good we are converting the whole yard. . . . Two men put a car load of lumber in storage in 30 minutes. . . . You never have to move other piles to get at the lumber you want. . . . We can have a whole truck load of lumber out on a rush delivery in 25 minutes' time. . . . The system can easily be adapted to the old fashion bin and post type sheds. . . . It makes the savings of a lift truck available to smaller yards with old type sheds. . . . The original investment is reasonable, the savings in labor and time are big.



PACKAGE OF LUMBER is set down on truck which has been easily pushed from storage space to alley. No other pile of lumber has to be moved with this system.

FORK LIFT DRIVER easily pushes load of lumber back into storage space with nudge of his fork. Loaded trucks are pulled out chain and fork lift.

Conveyor Line Finishing Works

This wood products manufacturer does entire finishing operation while product travels on overhead conveyor. Story is reported by Peter Grant.

Part I

A New England plumbers' woodwork manufacturer finishes all toilet seats and lids as they travel on an overhead conveyor through the finishing department at the rate of 250 to 350 units per hour, depending upon the kind of finish applied. The standard finishes used here include: V.O.W. (varnish on wood), stained finishes—mahogany and walnut, and enamel finishes—white and colored enamels. Sheet celluloid is used as a covering for other units in various figure and color combinations for decoration and protection.

Gum and yellow poplar are the principal woods used for the cheaper units and beech, birch, oak and maple are used for the better grades. Toilet seats to be covered with celluloid are usually made of poplar although reject units from other species, which cannot be used for finished seats because of surface defects, are also used. These seats are delivered direct to the covering department from the sanding inspection department in large rack trucks which hold 50 units each.

The covering department is located adjacent to the packing and trimming department. Here celluloid sheets precut to size and shape are applied to seats and lids by a cementing and cold pressing operation. Pressure for bonding is provided by special hydraulic presses incorporating suitably shaped dies especially designed for this purpose.

The finishing conveyor is an overhead chain conveyor power driven through a variable speed drive at a travel speed averaging about two feet per minute. Its travel begins at the final sanding and inspection department where units are prepared for finishing by hand sanding and repairing where necessary and continues through two floors devoted to finishing. The toilet seats and lids are transported through the various finishing operations by means of long hooks suspended from the conveyor chain which engage holes bored to a substantial depth to receive hardware mountings.

Upon entrance into the finishing department the three prongs of the conveyor branch off to their appointed destination for the various types of finish. Three separate lines of conveyor travel are maintained to eliminate lost time in making change-overs and to permit the use of the most efficient finishing method for the type of finish being applied. The first conveyor operating through the first floor opposite the packing and trimming department is used to finish all V.O.W. units, the second is used for all stain finishes and runs along one side of the second floor, the third also operating through the second floor is used for all enamel finishes.

Most units that are finished V.O.W. are constructed of oak and travel first through the filler booth where filler is applied at spraying consistency. This is permitted to travel for about 10 minutes to set and is then ragged and cleaned off. (Where close-grained hardwood units are given a V.O.W. finish the filling operation is omitted.) All units are sanded lightly with 4/0 sandpaper before the sealing operation.

The conveyor dips down into a varnish-type sealer to drop the seats and lids down into the sealer and then rises to travel for some distance over a long drain board to permit them to drain and dry. Most of the excess material drains back into the tank. The sealer is kept in proper solution by means of an agitator and the continual travel of the seats and lids through the dip tank helps to keep the material stirred up. Care has to be taken not to agitate this material too much as bubbles form on the dipped pieces to cause trouble in the final finish.

The sealed units travel along the conveyor for about 25 minutes to set and dry the sealer coat. They then are drawn through another dipping tank containing a spar-type varnish for body and moisture protection and travel along the conveyor about 15 minutes for flow. The conveyor carries the units next into a drying oven where they are force-dried for about 3 hours at a temperature of about 130-degs. F. and a relative humidity of about 35%.

After leaving the drying oven the seats and lids are allowed to travel for about 30 minutes to cool and cure before delivery to the rubbing department. Here they are taken off the conveyor line and inspected. Some are rubbed down with pumice and paraffin oil and cleaned off and polished. Others are sent direct to the packing and trimming department with a gloss finish. Both gloss and rubbed units are placed in the large rack trucks for delivery to the packing and trimming department.

Mahogany and Walnut Standard Finishes

While the standard finishes are mahogany and walnut, special finishes such as cherry, maple or other natural finishes required to match home woodwork are also produced here. The first stop on this conveyor line is the stain booth where NGR stains are sprayed at a spraying pressure of about 60-lbs. and a material pressure of about 30-lbs. The seats and lids remain on the hooks during spraying as they are arranged to swivel to permit reaching all surfaces. The conveyor also dips at all spray stations to permit a convenient height for spraying.

Some woods, such as gum, are first sprayed with a low solids lacquer washcoat (about 10%) to prevent excessive penetration of the stain. This stain coat is air-dried by a travel of about 15 minutes and then is sanded lightly with 4/0 paper. All units are blown and wiped clean before entering the sealer booth. Here the sealer coat is sprayed with a 21% solids lacquer sealer at a spraying pressure of about 65-lbs. and a material pressure of about 35-lbs.

The sealer coat is given about 10 minutes travel for flow and then carried into a drying oven to be force-dried for about 30 minutes at a temperature of about 130-degs. F. and about 30% relative humidity. The units are given about 15 minutes travel to cool and are sanded with 5/0 paper and blown and wiped clean. Any burn-in repairs required are usually made at this point of travel. While all units do not require uniforming or toner shading, they all pass through the uniforming booth and are given 10 minutes travel to dry.

At the top coat booth a fairly heavy top coat of 24% solids clear lacquer is sprayed at a spraying pressure of

(Continued on page 76)

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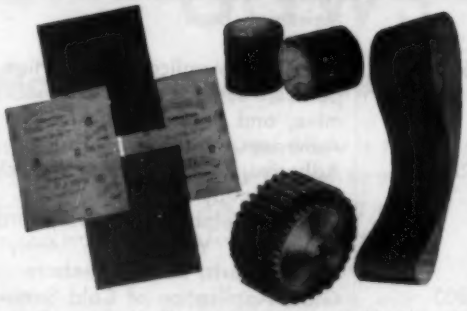

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WOOD SPECIFICATIONS

(Continued from page 27)

special purposes, or requirements pertaining to wood products. This makes a total of 132 specifications on wood or allied products most of which have been encountered among "applicable specifications." There may be a few more, but it is believed that this list, which follows, is about the most complete one of its kind ever compiled.

Meeting the Requirements of A Specification

In preparing to manufacture a wood product in conformance with a government specification it is first necessary to determine the availability of necessary raw materials. The selection of an acceptable kind of wood and suitable alternates should be made on the basis of local availability. The proper grade for the purpose depends on the allowable defects and lengths of cuttings. If the product is small and cuttings are not over three feet in length the lower grades can be utilized most economically. Longer cuttings usually require correspondingly higher grades.

A properly written specification for a fabricated wood product usually requires a certain quality of wood in the product rather than a grade of lumber from which the product is made (as with all general rules there are a few exceptions). In making fabricated wood products with such a specification, it is the privilege of the manufacturer to select any grade of lumber provided it will yield the wood quality prescribed by the specification. Some of the older specifications for fabricated products still carry a stipulation as to the grade of lumber to be used, but these, with a few necessary exceptions, are being corrected in the current review as rapidly as possible.

Most all fabricated wood products specifications are written so as to require dry wood parts and the maximum allowable moisture content is generally specified. At the present time moisture content requirements are being checked by government inspectors. Consequently to avoid costly rejections, the products manufacturer must be careful to assure that the moisture content of the finished wood parts is within the prescribed limitations.

Gluing Requirements Bear Watching

Many military wood products require waterproof adhesives. These are the resorcinals, phenolics and melamines only. Urea resins are not waterproof, but simply moisture "resistant." Caseins are less moisture resistant than ureas, and animal and vegetable glues are not satisfactory for wood parts subjected to moisture exposure. In spite of this we sometimes run across specifications calling for "waterproof animal glue." In a situation of this kind it would be advisable to obtain clarifying instructions from the contracting officers before using any glue.

Manufacturers or suppliers of fabricated wood products who encounter specifications which present unreasonable obstacles to production, or which delay procurement through restrictive or unnecessary limitations and requirements should write to the Timber Engineering Company, 1319–18th Street, N. W., Washington 6, D. C., Attention: J. L. Stearns, giving number, date and title of specification, together with a statement of the problem.

SOME IMPORTANT APPLICABLE SPECIFICATIONS USED IN CONNECTION WITH GOVERNMENT SPECIFICATIONS FOR WOOD PRODUCTS

This list covers only (1) Wood adhesives, (2) Packaging (in wood containers), (3) Wood preservatives, (4) Lumber, plywood, and allied specifications. It does not include paints, or other finishing materials, marking, inspecting, hardware, non-wood packing materials, or non-wood raw materials.

GLUE SPECIFICATIONS (Wood Adhesives Only)

Current Specification		Previous Spec.
C-G-451	Glue, Animal, for Woodworking	
C-G-463	Glue, Liquid	
C-G-456	Glue, Casein-type, water resistant	
C-G-496	Glue; Urea-resin-type, (Liquid and Powder)	AN-G-8
MIL-A-397A	Adhesive, Room Temperature & Intermediate temperature setting resin (Phenol, resorcinol & Melamine base)	JAN-A-397 and 14124A (USAF)
MIL-A-5534	Adhesive, High Temperature setting resin (Phenol, Melamine, and Resorcinol base)	AN-A-45
MIL-A-5433A	Adhesive; Application of Room Temperature and Intermediate Temperature setting resin (Phenol, Resorcinol and Melamine base)	14140 (USAF)
11,298		
MIL-A-5535A	Adhesive; Application of High Temperature-setting resin (Phenol, Melamine, and Resorcinol base)	AN-A-46 and MIL-A-5535
MMM-A-175	Adhesives, Methods of Testing	
MIL-A-928	Adhesive; Synthetic resin (for clad aluminum alloy to wood)	
3-169	Glue; Vegetable (U.S. Army Ord.)	
91-99A	Gluing of Wood (U.S. Army Ord.) Vehicle parts, Requirements for	
MIL-G-6803	Glue; Application of Cold Setting resin (urea type)	AN-G-20
AXS-1665	Resorcinol resin (U.S. Army Ord.)	
AXS-1666	Glue (U.S. Army Ord.)	
52-G-11	Glues, Resin (Urea formaldehyde) (Navy Department)	
PG-2	Glue, Process for use of Phenol-aldehyde resin (Navy Aero.)	
G-35	Glue, Metal to wood sandwich construction (Navy Aero.)	
AF-14139	Glue, High-temperature-setting resin (USAF)	
AF-14150	Glue, Application of high temperature-setting-resin (USAF)	

(Continued on page 49)

ATKINS Silver Steel

Circular Saws

for every Woodworking Need

As every woodworker knows, the basis of a good saw is *steel*. And Atkins *"Silver Steel"* circular saws are famous throughout the world for standing up on the job, for staying sharp longer, for turning out *more* work at *less* cost. It is because *"Silver Steel"* saws are made of the finest, toughest steel ever compounded for sawing purposes. In addition, every manufacturing step—toothing, heat treating, tempering, perfect tensioning and accurate grinding—is performed by the most modern machines and the most highly skilled sawsmiths operating today!

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SOLVENTS

(Continued from page 32)

covered after treatment, showed a marked difference in discoloration of ordinary flat white paint when applied to lumber processed in the two ways. Since no significant difference was found in the results obtained with any of the 6 solvents listed above, the following discussion of treatment with one of them may be considered representative of the procedure followed with all:

A solution was made up of approximately 9.4 percent copper naphthenate dissolved in Stoddard solvent (mineral spirits) which was used as a pressure impregnating solution. Two charges were then made up of 2-in. by 8-in. by 6-ft. kiln dried, Southern Pine boards, originally 12 ft. long but which were cut at the midpoint in order to make up the 2 matched charges. One of the charges was then pressure impregnated with the copper naphthenate solution. This charge was then replaced in the treating cylinder by the second one which contained the mated boards. This second charge was impregnated in the same manner as the first, but after the preservative treatment, the charge was subjected to the action of Stoddard solvent vapor in the same cylinder in which it was treated. After application of vapor for one hour, during which heat was being accumulated in the wood, a vacuum of one hour duration was applied. This was followed by another hour of heating in vapor, then by another vacuum. At the end of this vacuum the charge was subjected to a short period of steam reconditioning and removed from the cylinder.

The results of processing the charges that were "treated only" and those that were treated and then subjected to solvent recovery are shown in Table 1.

If the solvent retention values of the right hand column of this table are converted to lbs. per 1,000 FBM it will be found in the case of the petroleum and coal tar solvents that there is an average difference in retention of about 470 lbs. of solvent per 1,000 FBM between the "treated only" and the "solvent recovered" charges. In the case of the chlorinated solvents, which because of their higher density were retained in greater amounts, this difference is about 980 lbs. per 1000 FBM. From the foregoing it can readily be seen that these values, converted into terms of price of the solvents, represent a very substantial saving.

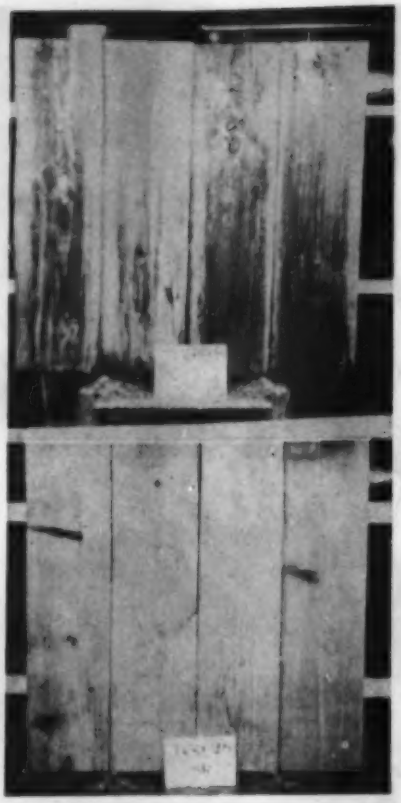

Figure 1. Upper panel shows treated only sample. The other shows result of solvent recovery.

Photographs of typical panels made up from matched charges, one of which was treated only and the other subjected to solvent recovery after treatment are shown in Fig. 1. Figure 2 shows sections of samples from these panels one month after they had been painted with two coats of flat white paint. In the case of the "treated only" specimen the painting was done more than six weeks after treatment in order to allow the solvent time to evaporate from the wood as in the usual practice of seasoning after treatment. Because of the very striking difference in the appearance of the surface of the solvent recovered wood as compared with that which was "treated only", as a result of its freedom from the heavy surface deposit of preservative, the question arose as to whether or not too much of the preservative had been removed from the surface, thus leaving it in an unprotected condition. In order to answer this question, matched boards from "treated only" charges along with their mates which were solvent recovered were zoned into outer ¼-in., second ¼-in. and core; and these were analyzed for copper content. The results obtained with the six different solvents were practically identical, and therefore the averaged data for all of this work are shown in Figure 3. It will be seen that the very high concentration of copper naphthenate present in the surface of the "treated only" samples was reduced substantially by solvent recovery; however, even in the surface of the solvent recovered material, the concentration of copper was slightly higher than in the interior. The very high concentration in the "treated only" boards was confined only to the outer 0.2 inch. It is obvious that this would prove ineffective in giving much added protection to the wood, because of the fact that very shallow checks developing in service would allow access of wood destroying organisms to the less heavily treated inner zones. Furthermore, much of the lumber of this type is cut and fitted on the job so that reliance could not be placed in the heavy external treatment as a protective barrier. The area between the two curves on Figure 3, which represents about 2/7 of the total preservative in the "treated only" specimens, indicates the amount of preservative that is saved by the use of the solvent recovery process. This preservative, which is extracted by the action of the solvent on the wood, is carried in solution to the evaporator of the vapor solvent recovery plant where it concentrates since it is nonvolatile.

When the concentration of copper naphthenate in the evaporator has built up to the same level as that for the regular treating solution (about 9.4 percent) this solution is transferred from the evaporator to the treating tank to be re-used, while the evaporator is filled with new solvent. From this it will be seen that the use of the solvent recovery process saves not only 470 to 980 pounds of solvent, but also 20 to 25 pounds of copper naphthenate, per 1000 FBM.

In spite of the favorable distribution of copper found in the solvent recovered wood, it was still recognized that the solvent recovery step, in its use of temperatures as high as 320°F during the cycles of heating in vapor, might have in some way affected the copper naphthenate left in the wood, thereby reducing its toxicity. In order to obtain information on this point, matched pieces of lumber from charges processed with each of the six solvents; one group of "treated only" specimens, and one group of "treated plus solvent recovery"; were subjected to soil block culture tests, to accelerated field tests using ¾-in. test stakes, and as solid 2-in. by 8-in. by 2-in. thick panels in soil burial in a "tropical" testing room. The results of these tests showed no significant difference

(Continued from page 49)

Wood

You believe it?

It is only when buildings are not properly built or maintained that serious damage is done by subterranean termites or decay fungi.

?

Wood is made up principally of cellulose, lignin, hemicelluloses and soluble materials, including tannins, dyes, resins, essential oils, fat, nitrogenous organic compounds, organic acids and their salts.

?

Ashes of wood are made up principally of the salts of calcium, potassium, and magnesium with small amounts of sodium, aluminum, iron and manganese sulphates, chlorides, and silicates also found.

?

Assuming that it requires approximately 10,000 board feet of lumber to erect a one-family house, forest fires in the United States in an average year destroy enough sawtimber to build more than 70,000 homes.

?

The annual value of goods produced by wood-using industries is twenty billion dollars.

?

What is believed to be the largest load of logs ever transported by a logging truck scaled thirty thousand one hundred eighty feet in 1941 near Snoqualmie Falls, Washington.

?

The much maligned "Whistle Punk" actually has the very responsible job in the Douglas fir region forests of transmitting orders from the rigging slinger and hook tender as signals to the donkey engineer.

?

In addition to 22 State forests, Michigan has five U. S. National Forests consisting of over 5,000,000 acres. Over 2,300,000 acres are actually owned by the Federal Government.

?

Captain John Smith was another of the early American woodsmen. It was by shipping certain forest products to England that he proved to his financial backers that his colony at Jamestown was economically justified.

?

If all of the forest land in the United States were in a single area, it would be about 387 miles wide and 2,500 miles long.

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Blake & Johnson is headquarters for patented Twin-Fast® twin-thread wood screws now available with Phillips head as well as slotted round, flat and oval heads—in brass and steel, bright finished—in all standard lengths and diameters and some special sizes; others to order.
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DUBRUCQ

(Continued from page 25)

ball Cleveland Indians. He, himself was at one time a semi-pro basketball player back in the days when he was younger and 100 or so pounds lighter. He played basketball with the old Whiting Oilers while working at the Whiting Refinery of the Standard Oil Company of Indiana. After one of the many night basketball games and trips which cut into DuBrucq's normal amount of sleep, he unfortunately went to sleep on the job one day and forgot to turn off a valve. An untold quantity of petroleum found its way into Lake Michigan before DuBrucq awakened. To this day he claims innocence because of the impossibility of his staying awake after "do or dieing" late into the night for the good old Whiting Oilers.

During the past year Mr. DuBrucq has been president of the Association of Manufacturers of Woodworking Machinery. One of his major contributions to the woodworking industry in the past year was a research project which was developed through his and the efforts of the Wood Industry Division of the A.S.M.E. and resulted in a report given to the annual meeting of the American Society of Mechanical Engineers at Atlantic City, New Jersey, November 25 through the 30th, 1951. The subject of this extensive research project and report was "Woodworking Machinery Manufacturers look at Carbide Tool Cutting."

BERCKES

(Continued from page 25)

prosperity, and in war as well as peace.

Herbert Christian Berckes, born and educated in New Orleans, gained his first business experience on the staff of the New Orleans Board of Trade and the New Orleans Cotton Exchange. He became affiliated with the Southern Pine Association in 1915 and eight years later was appointed assistant secretary.

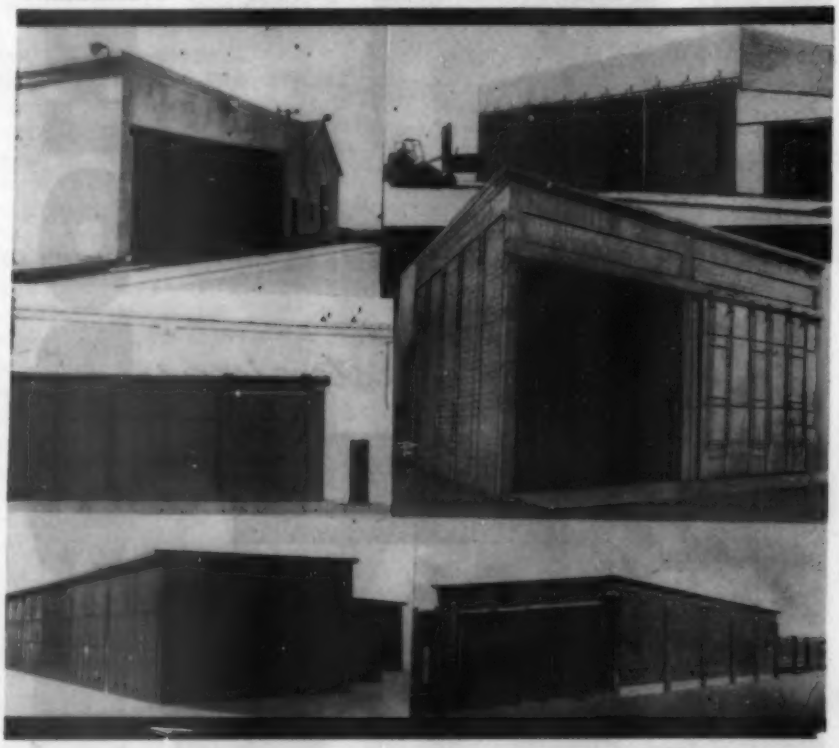
The selection of Mr. Berckes as secretary-manager of SPA came in 1923, when he was only 31 years old. This appointment gave him the distinction of being the youngest executive director of a major trade association in the United States.

Mr. Berckes' leadership has not been confined to the Southern Pine industry alone, though his service to it has been continuous and invaluable. He has been a member of the American Trade Association Executives since 1921, for several years has been on the Faculty of ATAE's National Institute at Northwestern University and is author of a chapter in the Association Executive's textbook. He also has served on the Board of Directors of ATAE.

The Southern Pine Association secretary-manager was chairman of the trade association group of the National Industrial Council of NAM during 1945 and 1946 and has served on the Administrative Committee of that body for several years. In addition, he was chairman of the NIC's Committee on Industrial Problems and currently is chairman of the organization's Public Relations Committee. Mr. Berckes also is a member of the Advisory Committee on Trade Associations of the U. S. Chamber of Commerce.

In addition to serving as managing head of the Southern Pine Association, Mr. Berckes is secretary of the Southern Pine Industry Committee. In his two-fold position, he has been a guiding force behind the progress that has marked the entire Southern Pine industry.

NORTH COAST **"DIRECT-FLO"** DRY KILNS



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NEW KILNS

KILN MODERNIZATION • KILN ACCESSORIES

BEYOND A DOUBT, THE NORTH COAST DRY KILN IS THE MOST EFFICIENT KILN IN OPERATION TODAY. The Fans are positioned at the sides of the lumber loads so that the air follows the shortest possible "DIRECT-FLO" path. This insures uniform efficient drying with lowest possible power consumption.

The Lovsted Company is a big part of the Dry Kiln building industry and one that serves well, competitively and honestly and will at any time be glad to discuss your requirements and if given the opportunity to serve you with dispatch and satisfaction.

Write our Dept. WK-2 for our Dry Kiln Catalog 366.

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FOREST PRODUCTS RESEARCH SOCIETY

F.P.R.S. Monthly Bulletin ★

Research • *Development* • *Production* • *Utilization* • *Distribution*

by FRANK J. ROVSEK, Executive Secretary, P. O. BOX 2010, UNIV. STA., MADISON 5, WISC., MARCH, 1951

Grede, Watts Head FPRS National Program June 23-26

William J. Grede, President
National Association Manufacturers

Lyle F. Watts, Chief, U.S.
Forest Service

MILWAUKEE, WIS., FEB. 8—The names of two prominent Americans, one in the field of industry, the other in national and international conservation of forest resources, were announced here today to head the list of some 50 speakers scheduled for the sixth Annual National Meeting of the Forest Products Research Society. Site of the meeting will be the Schroeder hotel, Milwaukee, Wisconsin, June 23-25.

Early last December, William J. Grede, president of the Milwaukee foundry firm bearing his name, was chosen by more than 3,000 manufacturing executives to head up the National Association of Manufacturers for the coming year. In so doing, Bill Grede will take over one of the top industrial advisory jobs outside of government's National Production Authority. TIME (Dec. 17, 1951) described Grede as a "Plain talker . . . with plenty of opinions. Bill Grede describes himself as a "foundry man or sand rat, as we call it." By selling pots and pans he worked his way through two years at the U of Wisconsin, then quit to invest in a small foundry. Ever since he has been running his own business and now has 1,100 employes. His estimate of N.A.M.'s biggest job in 1952: "To promote better understanding of this thing we call America and to call for a change in the financial policies of the U. S. Government."

It is a big order, and fortunately Bill Grede is the broad statured kind of individual who can fill it. His message to FPRS, at its Annual Business Meeting Luncheon, will undoubtedly bring a new insight and clearer understanding into the workings of our competitive enterprise system, and how it operates to bring us the highest standards of production and living the world has known.

As keynote speaker at the Monday, A. M. June 23 Technical Session, Lyle F. Watts, Chief of the U. S.

(Continued on page 45)

NEW QUARTERLY "JOURNAL" OF FPRS APPROVED AT FEBRUARY 7, 8, 9 EXECUTIVE BOARD MEET

MILWAUKEE, WIS.—All officers and regional board members were present at the last board meeting prior to the Annual National meeting to be held in June. Meeting with members of the 1952 National Meeting Committee on Feb. 7, and continuing with other Society affairs on the 8th and 9th, the board passed on a number of important organizational and membership service improvements.

The principal business was the matter of FPRS publications policy and course, and consolidation of board thinking re: the national meeting with that of the steering committee. Both aims were realized by moving the board meeting forward from the originally scheduled March dates.

On the strength of the recommendation of the national publications committee and an appraisal of the financial position of the Society, plus indications from the recent member poll on publications, the board voted to issue the new JOURNAL of the FPRS on a quarterly basis in 1952. This will be in addition to the regular Annual Proceedings which will also be published during 1952. Issuance dates of the new Quarterly JOURNAL will be April, June, September and December.

Each issue of the JOURNAL will run approximately 150 pages and contain a cross-section of those papers presented at FPRS Sections that have been approved by the publications committee.

In establishing the new JOURNAL there will be no reduction in services to members who have paid 1951 dues. In other words, they will continue to receive WOOD and Wood Products containing the FPRS Monthly Bulletin through the full year of service to which they are entitled, in some cases running to March, 1953. New members signing up for 1952 will receive the four issues of the JOURNAL only.

Among other subjects coming up for heavy discussion during the 2½ day session were: *Public relations of the Society.* The board reiterated its

(Continued on page 46)

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FPRS Forum

The FORUM is intended to serve as a medium for open discussion by all F.P.R.S. members, bringing practical answers to specific problems. Questions or contributions should be directed to the Executive Secretary.

THE PROBLEM: What are the machining requirements for lumber being electronically edge-glued?

The Answer: By John Yaworsky, Research Assistant N. Y. State College of Forestry Syracuse 10, New York

In most cases, electronic edge-gluing requires more precise machining or surfacing than other clamping methods. However, this cannot help but increase the quality of the product so that it can hardly be considered a disadvantage. In general, the following requirements should be maintained to insure maximum joint strength in a minimum curing time.

1. The lumber must be flat, since any warp, twist or cup in the boards will reduce the area of wood to wood contact in the glue joints. In addition, non-uniform voltage gradients will be set up during the curing cycle resulting in uneven curing and arcing in the glue lines. Any attempt to flatten the stock by using excessive top pressures will only lead to the bonding of the joints in a highly stressed condition. Subsequently, such joints will very likely fail i.e., open up, when exposed to even small variations of temperature and humidity. By ripping the individual boards to about 3" wide, much of the twisting and cupping can be reduced.
2. The edges of the boards must be straight and square in order for the proper edge pressure to be transmitted across the panel. Edges which are out of square or hollow will also result in a reduced area of wood to wood contact and non-uniform voltage gradients as described above.
3. The lumber should be of uniform thickness. Variations in the thickness of individual boards will again result in non-uniform voltage gradients across the glue lines and uneven curing or arcing in the glue lines. By allowing a longer curing period and reducing the r.f. voltage, differences as great as ⅛ inch may at times be tolerated. If the only result of the variations in thickness is a reduced cure, then the r.f. voltage may be increased, short of the arcing point, in order to insure an adequate gradient across the glue lines.
4. The lumber should be surfaced just prior to gluing. This is a general requirement for good gluing, of course, and is not restricted to r.f. gluing operations. A freshly exposed surface permits maximum adhesion to occur between the wood and the glue. In addition, a short lapse of time between surfacing and gluing materially reduces chances for the boards to shrink or swell due to moisture change and resulting effects on the squareness of the edges.

THE PROBLEM: How long a period should be used in an r.f. edge-gluing operation?

From a production standpoint, the curing cycle should be balanced against the make-up time. For instance, if it takes 45 seconds to lay-up a load for an edge-gluing press, a curing cycle of 45 seconds or slightly less should be used. When edge-gluing thick stock (6/4 or over), bowed and twisted boards, or high density species, a curing period in excess of the lay-up time may be required.

All of the thermosetting glues used in r.f. gluing processes are dependent upon a temperature-time relationship for their cure. In the r.f. gluing process, the heat generated in the glue lines is a function of the r.f. voltage and the heating time. Consequently, there is a minimum r.f. voltage required to obtain an adequate cure for any given heating period, and the lower the r.f. voltage the longer the curing cycle. On the other hand, the r.f. voltage cannot be increased indefinitely in order to reduce the heating time since excessive voltage will result in arcing or internal burning in the glue lines.

The heating period should be long enough to obtain sufficient joint strength in the glue lines to withstand subsequent machining and handling. However, the maximum strength of the glue bond is not necessarily developed at this time. In general, it is usually a matter of compromise between using a maximum voltage gradient short of the burning or arcing point and achieving a balance between man and machine time. However, experience in industry has indicated that 4/4 lumber of low density species can be edge-glued in loads up to 40" x 80" in area in 20 to 40 seconds. This depends upon the output power rating of the r.f. generator and the permissible voltage gradient across the load. The same size load in high density species under optimum operating conditions requires 45 to 50 seconds.

THE PROBLEM: What voltage should be used during an r.f. edge-gluing operation?

The most efficient r.f. voltage from the standpoint of minimum curing time and maximum joint strength is a function of the particular gluing set-up. It must be established by a series of cut-and-dry operations. However, based on experience gained in industry and from extensive laboratory tests, the voltages in the following table appear to provide the optimum operating ranges.

Species of Wood	Min. r.f. Peak Volts Per In.	Max. r.f. Peak Volts Per In.
Cherry and Mahogany	800	1200
White, sugar and ponderosa pine	800	1500
Basswood, aspen, chestnut, butternut, and walnut	1000	2000
Yellow, poplar and oak	1200	2000
Beech, birch and maple	1500	2500

Most of the r.f. voltmeters in use at present are the peak reading type. That is, they measure the maximum amplitude or peak of the voltage waveform, and are calibrated directly in r.f. peak volts or kilovolts (thousands of volts).

The main precautions to be observed when measuring a voltage gradient are (1) the voltmeter leads should be fastened directly to the press electrodes, (2) the electrodes should be in direct contact with the

(Continued on page 45)

F.P.R.S. Sections

NORTHEAST SECTION TO HOLD ANNUAL MEETING AT YORK, PA., MAY 22, 23

Under the direction of Acting Chairman, Frank Parrish and Acting Vice Chairman Charles Lockard, each of whom has moved up one notch in the Northeast organization with the transfer of former Chairman Fred Dickinson from Yale to University of Michigan, plans for the Annual Spring meeting are well progressed. Meetings will be held in the Hotel Yorktown, York, Pa., Thursday and Friday, May 22, 23. The theme is, Materials for Forest Products Industries.

Tentative Program

Session I—Abrasives, Availability and Uses, Behr Manning Co.; Availability of Quality Wood in Northeast, J. McGuire, N. E. Forest Exp. Station; Use and Abuse of Wood in Construction, Roy Lumber Co. Session II—Glue Panel: Whys and Wherefores. Covering Animal, Casein, Resins. Tom Perry Moderator, Peter Cooper, Borden and Koppers Companies; Session III—Plastics surfaces, Connecticut Plastolite; Synthetic substitutes, St. Regis Paper Co.; Modified Woods, Forest Prod. Lab.

PACIFIC NORTHWEST SECTION TO MEET MARCH 11, 12 AT SEATTLE

Following a very successful meeting at Longview, Washington, on the subject of fiber boards, another program along the same subject has been scheduled this spring. Coincident with the meeting, U.S.F.P.L. fiber board and chemical experts, Sidney Schwartz, Dale Turner and Wayne Lewis will be visiting West Coast board plants through this period. Wayne Lewis, an engineer who has specialized on test procedures for building fiber boards will be in attendance at the Seattle meeting.

NORTHERN CALIFORNIA TO MEET MAY 9 AT

One of the highlights of their program, unofficial at the moment, is expected to be a visit of President-elect Kenneth Chesley, Director of Research for the Crossett Cos. Chairman Ray Shreck recently visited with Chesley at Crossett to make arrangements for the latter's visit.

1952 MEETING PLANS IN HIGH GEAR

MILWAUKEE, WIS., FEB. 7— General Chairman Ralph H. Bescher met at the Schroeder hotel with 00 members of his steering committee to lay down final plans and hear progress reports on 1952 national meeting arrangements for Milwaukee. In attendance were, Program Chairman, Kenneth Chesley; Milwaukee Arrangements Chairman, Robert Hiller, American Cyanamid Co.; Fred Heid, Finance Chairman, Ekstrom, Carlson & Co.; Host Committee Chairman, Joe Alegretti, the Masonite Corp.; Entertainment Chairman, Casper Strong, the Bakelite Corp.; Housing Chairman, George Stanley, Pressed Steel Car Co.; and William Barta, Local Publicity, the Rockwell Mfg. Co. Also in attendance were, national board members R. D. Pauley, President Roy M. Carter, Moss Christian. Publicity Chairman Alexander Stuart, John Widdicomb Co. and National Publications Chairman, Irving Isenberg, entered into meeting discussions the following day.

Glimpses at Advance Program

Sunday, June 22. In the late afternoon there will be registration and an informal welcoming party and snack bar. The executive board and the Section officers Council will each hold special meetings.

Monday, June 23. In the morning there will be a keynote session with papers on millwork and prefabricated housing. Ladies and family activities scheduled.

In the afternoon, concurrent sessions on Lumber Handling and Chemical Utilization. During the evening, 6:30 p.m. "Gemuetlichkeit" night. Four leading breweries—Blatz, Schlitz, Pabst and Millers—will serve as hosts to FPRS meeting attendees. Buffet suppers and entertainment are scheduled.

Tuesday, June 24. Concurrent sessions on Furniture Finishing and Wood Fiber and Aggregate Board in the morning. Official business meeting and luncheon. Ladies invited. Children's activities.

Afternoon, concurrent sessions on Furniture Manufacturing and Housing. Evening, gala FPRS Party with dinner, floor show and dancing in the beautiful crystal ballroom. There will be children's activities.

Wednesday, June 25. Concurrent sessions on Veneer and Plywood and Related Forestry Subjects in the morning.

Wednesday, P.M. Scheduled field trips to Harnishfeger Prefab Housing Plant at Port Washington and to Allis-Chalmers Manufacturing Co., West Allis. Non-scheduled trips to other plants of interest.

Thursday, June 26, A.M. Buses leave for U. S. Forest Products Laboratory, Madison, Wis., 80 miles west of Milwaukee. Luncheon will be served; Ladies and childrens events.

GREDE, WATTS

(Continued from page 43)

Forest Service, will set the pattern for some 50 speakers to follow. Watts is the man behind the U. S. government programs in forestry, wood research, and forest conservation. In 1950 he received the Distinguished Service Award from the Secretary of Agriculture, the highest award of that Department, for distinguished leadership in advancing the conservation of forest resources in the U. S. and the world. Watts has also taken a leading role in the development of the world forestry organization, FAO. The broad research program of the U. S. Forest Products Laboratory at Madison, Wis. comes under his direction.

Watts will speak on the subject—Research, the Keystone of Forest Products Management. He says. "The central theme will be built around the stake of forest management in wood utilization. I believe that intensive forestry in this country can come only with intensive utilization of the products we grow in the woods and that much more research is necessary in order to bring recent discoveries in wood utilization and those which are to follow down to the level where the products are economically feasible for manufacture."

FORUM

(Continued from page 44)

work, and (3) a conversion factor must be applied when the panel thickness differs from one inch. For example, for a panel ¾" thick, a multiplying factor of 8/7 or 1.14 times the voltmeter reading will give the actual peak volts per inch.

Measurement of the r.f. voltage across the load is vital to proper regulation of an r.f. edge-gluing process. An r.f. voltmeter provides an easy-to-read indication of optimum tuning whenever returning is necessary.

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Milwaukee Arrangements and Publicity Committees Meet

Photo by Barta, Rockwell Mfg. Co.

ON JANUARY 4 Chairmen Bob Hiller and Sandy Stuart of Milwaukee Arrangements and Public Relations respectively called a joint meeting of their committees at the Schroeder hotel. In attendance, l. to r., Stanley Gebarski, Allis-Chalmers Mfg. Co.; Joseph Paul, Phenix Mfg. Co.; Stuart; National Secretary, Rovsek; Hiller; Forrest Beil; Casper Strong; Alvin Monroe, Milwaukee Association of Commerce; and Richard Brown, Rockwell Mfg. Co.

BOARD MEETS

(Continued from page 43)

policy of complete cooperation with the trade and news press regarding papers presented before FPRS Section or national meetings. This policy calls for making all papers which have been approved for release by the publications committee available to the press upon clearance through FPRS' national office.

Long Range Publication Sales Program. The national office is embarking on a program to place its Proceedings and Journals in the leading technical and public libraries of the world, and thus further the purposes of the Society. One measure will be the issuance of a series of publications each devoted to some specialized vertical segment of the industry, for example, fiber boards; veneer and plywood; chemical utilization; furniture manufacturing; finishing; logging practice, etc. It is planned to have these publications available at the national meeting.

Membership activity. New plans and tools for boosting membership in 1952 were discussed and are now being placed into operation. Under student membership class, new enrollees will no longer receive WOOD and Wood Products magazine as part of their membership. They will continue to receive the FPRS News-Digest monthly as well as preprints of the national meeting papers. There was also considerable discussion on the establishment of an Intermediate Grade of membership in the Society.

The 1952 operating budget of the Society was increased over 1951, principally to permit additional editorial assistance and help underwrite cost of added publications.

The subject of future industry shows was aired and a committee appointed to investigate possibilities and report back to the board prior to June.

Subject matter committees in such fields as drying, finishing, machining, fiber boards, and others will become an active fact at the national meeting where plans are now being made to provide scheduled times and meeting rooms for such committees. (Note: For further information regarding activation of subject matter groups in fields in which you are interested communicate directly with the Executive Secretary, Frank Rovsek, Box 2010, University Station, Madison 5, Wis.

Research Publications

The following publications are reported as being currently available, without charge, from the U. S. Forest Products Laboratory, Madison 5, Wis.

No. D1769-13—*How can black walnut gunstock blanks be kiln dried without honeycombing?* One of the series News and Views of This Kiln Drying Business by John M. McMillen.

No. R1912—*Semichemical-pulping characteristics of Pacific Coast red alder, Douglas-fir, western redcedar, and western hemlock* by J. N. McGovern, E. L. Keller, J. S. Martin, and R. M. Kinsbury. The red alder gave neutral sulfite pulps having excellent promise for use in container boards and bleached-paper products. The softwoods required typically high chemical pulping by the neutral sulfite process. Western redcedar and western hemlock and considerable promise for use in paperboard and Douglas-fir somewhat less.

No. 444—*List of Publications on Pulp and Paper.* Revised 1952.

No. 1913—*Azobe, bongossi, ekki, (Lophira species)* by Eloise Gerry. One of the Foreign Woods Information Leaflets. Summarizes the physical and mechanical properties of the West African species and supplies references.

No. R899-29—*Slab-disposal Devices for Portable Mills* by C. J. Telford. One of a series, "Small Sawmill Improvement—Practical pointers to Field Agencies. Describes a rotating-drum slab heaver and a belt type of portable slab conveyor for conveying slabs away from the mill—both in lieu of the conventional trough conveyor.

No. R1637-47—*Tractor Pull-out Chains* by E. W. Fobes. One of the series "Improved Harvesting Methods, Equipment Survey Notes. Describes a simple chain-and-hook assembly to be used in pairs to quickly pull crawler tractors out of mud holes.

No. R446—List of Publications on the Seasoning of Wood. Revised December 1951.

No. R1909—Sulfate Pulping of Ponderosa Pine Thinnings by J. Stanley Martin. October 1951. Ponderosa pine was, in general, very similar in sulfate-pulping characteristics to jack pine, a pulpwood of accepted satisfactory quality.

WOOD SPECIFICATIONS

(Continued from page 36)

JAN-A-136	Adhesive, palletized unit load
4149	Glue, Application of water and mold resistant casein
0041	Glue, Curing process, high frequency, Dielectric heating
4122	Glue, Water & Mold Resistant Casein (USAF)

PACKAGING SPECIFICATIONS

JAN-P-103	Packaging & packing for Overseas shipment—Boxes; wood cleated; solid fiberboard	100-33 (USAF)
JAN-P-104	Packaging & packing for Overseas shipment—Crates, sheated, wood, nailed	100-59 (USAF)
JAN-P-105A	Packaging & packing for Overseas shipment—Boxes; wood cleated plywood (for boxes whose weight of contents does not exceed 1,000 pounds)	JAN-P-105 and 100-24A (USAF)
JAN-P-106A	Packaging & packing for Overseas shipment—Boxes, wood, nailed (for weight of contents and not in excess of 1,000 pounds)	JAN-P-106 and 100-21A (USAF)
JAN-P-109	Packaging & packing for Overseas shipment—Barrels, tight	100-58 (USAF)
JAN-P-112	Packaging & packing for Overseas shipment—Drums, plywood (for drums whose weight of contents does not exceed 200 pounds)	100-25 (USAF)

(Continued on page 56)

(Continued from page 38)

in the decay resistance of the "treated only" and the "solvent recovered" specimens.

The vapor solvent recovery process was also carried out on lumber treated with solutions of copper naphthenate containing an added water repellant. Mated samples of "treated only" and "treated plus solvent recovered" were tested by the method given in Navy Dept. specification 52-W-5 for determination of water repellancy in treated wood with the following results:

Treated only 72.6 percent water repellancy.

Treated plus solvent recovery 82.2 percent water repellancy.

Additional tests have been carried out with equal success on lumber that had been air seasoned or Vapor-Dried. It was found that with an alternating cycle of Vapor-Drying totalling 10 hours, that the 2-in. by 8-in. lumber could be satisfactorily impregnated with copper naphthenate and subsequently solvent recovered by the Vapor Process. Starting with green timber, the total time for the whole

(Continued on page 56)

Tannewitz
HIGH SPEED
BAND SAWS

Saws faster, smoother and easier than conventional band saws. Regularly increase production from 50% to 100% with consequent reduction of costs. Built by sawing machinery specialists Write for circular.

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GRAND RAPIDS 4, MICHIGAN

SINCE 1884
Dependable
Delivery of Quality
SOUTHERN PINE
and
HARDWOOD LUMBER
Customers who buy from W. T. Smith learn immediately that this company gives them what they want when they want it. Such dependable deliveries have been made, with only minor interruptions, for 68 years. And today W. T. Smith with its sustained yield cutting and efficient plant methods, still is your best choice for dependable delivery of quality Southern lumber.
ROCKY CREEK BRAND OAK FLOORING
W. T. SMITH LUMBER CO.
CHAPMAN, ALABAMA
68 YEARS OF MANUFACTURING YELLOW PINE AND HARDWOODS

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All Southern
Commercial Species

Uniform Manufacture Proper Drying

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RED & WHITE OAK RED & SAP GUM
INDUSTRIAL and WAGON OAK

•

ASH HICKORY CYPRESS ELM

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Furniture Semi-Dimension
Thresholds
Solid and Glued-Up Treads

•

Quality backed by sixty-two years of dependable service to the trade

Buy Brands You Know!

FORDYCE LUMBER COMPANY

FORDYCE, ARKANSAS

Since 1889

NAMES . . . EVENTS

(Continued from page 22)

nounces the opening of a new regional sales office and warehouse at 732 Ashby St., N. W., Atlanta, Ga.

The Leominster, Mass. plant of the NORTHERN CHAIR CO. has moved its operations to Suncook, N. H. The installation of new automatic equipment at the firm's Suncook plant has made additional floor space available.

EMPIRE MILL WORKS, Harriman, Tenn., has been sold to the J. W. WELLS CO., Montgomery, Alabama.

SAM MOORE, INC., of Virginia, has acquired the former HOOD CHAIR CO. plant at Greeneville, Tenn., and 200 employees are expected to be at work within a year.

GEORGIA PACIFIC PLYWOOD CO. has opened new warehouses in Lancaster, Pa., and Vineland, N. J. The company now has 18 warehouses in its coast-to-coast operation.

The Delta Power Tools Sales Division of the ROCKWELL MANUFACTURING CO. has been transferred from Milwaukee to Pittsburgh. R. P. MELIUS, Vice-President of Power Tool Sales, and his staff, will be located at the company headquarters in Pittsburgh.

LONG LAKE LUMBER CO. and SPOKANE PINE PRODUCTS CO. have been acquired by DAVID BROWN & ASSOCIATES from the Edward C. Wirt interests. The Long Lake Mills produce 18 to 28 million board feet each year, and Spokane Pine distributes finished millwork throughout the United States. Included in the purchase is timber acreage in Washington and Oregon. Mr. BROWN becomes President, and WILLIAM J. BURNS, formerly Long Lake Manager, Vice-President. (Wall Street Journal, January 19, 1952.)

MIDLAND GLUE PRODUCTS CO. has changed its firm name to MIDLAND ADHESIVES & CHEMICAL CORP. Founded in 1925, the company has vacated its plant at 1478 Madison, Detroit, and is now in full operation at its new plant located in Ferndale, Michigan, at 2600 Goodrich.

MONSANTO CHEMICAL CO., St. Louis, Mo., plans the construction of a plant at Avon, California, for the manufacture of phenol. The new plant will be jointly built and operated by Monsanto's Western and Organic Chemicals Divisions.

Associations

NATIONAL HARDWOOD LUMBER ASSOCIATION appoints five field representatives for instruction work, as follows: FLOYD POTTER, North Eastern states; GORDON BULLARD, Province of Quebec; ERWIN S. GUTSELL, North Central states; M. D. BUCKELS, South Central states and W. C. BARRIER, Southeastern states.

SOUTHERN PINE ASSOCIATION, New Orleans, La., received a "Certificate of Cooperation" from the United States Government for the roll it is playing in supporting mutual American-European efforts to strengthen the free nations against communism.

E. N. BEISEL, owner-operator of the Beisel Veneer Hoop Co., Helena, Ark., has been elected President of the ARKANSAS WOOD PRODUCTS ASSOCIATION for 1952.

FOREST FARMERS ASSOCIATION, Valdosta, Georgia, has selected Chattanooga, Tenn. as the site of the 1952 Southern Forestry Conference. The meeting will start March 27 in the Hotel Patten and close with a banquet March 28, 1952.

JAMES A. HOLEKAMP, Sylacauga, Alabama, has been appointed to the staff of the AMERICAN PULPWOOD ASSOCIATION, New York City, as a Logging Engineer.

(Continued from page 52)

Break that Strangle-Hold on your Wood Gluing Production!

Investigate...

Thermatron

HIGH FREQUENCY GENERATORS AND EQUIPMENT

Seen in the jig is an entire cabinet assembly to be glue-set electronically by THERMATRON in only 30 seconds. The bond is stronger than the wood itself by actual test! Hidden in the background is the 3 KW generator which masterminds this job.

*T. M. Reg. U. S. Pat. Off.

THE MODERN MIRACLE of dielectric wood bonding is fast making the "glue and clamp" method obsolete. **THERMATRON** is a pioneer in dielectric heating equipment . . . can show you how to shave production time to seconds, save on labor, reduce floor space and expensive rejects . . . yet produce lasting bonds stronger than the wood itself.

THERMATRON supplies the complete installation, both generators and necessary jigs, under one contract and one responsibility. Often the immediate savings in production effected by **THERMATRON** equipment more than offset the initial installation cost.

Write us today for complete details without obligation . . . and ask for our instructive bulletin No W-3.

HIGH FREQUENCY GENERATORS AND EQUIPMENT FOR ELECTRONIC GLUE DRYING • BENDING • EDGE GLUING • VENEER BONDING

Standard stock generators available from 300 Watt to 20 KW output, operating on 110 or 220 volt lines. Larger size generators up to 100 KW can be supplied for larger requirements.

Thermatron division

RADIO RECEPTOR COMPANY, INC.

Sales Dept 251 W 19th St New York 11 N Y • Factory 84 N 9th St Brooklyn 11 N Y

NAMES . . . EVENTS

(Continued from page 51)

APPALACHIAN HARDWOOD MANUFACTURERS, INC., re-elected T. M. MILLETT President of the Association at its annual meeting in Cincinnati. J. P. HAMER, Kenova, W. Virginia, won another term as Vice-President T. J. MITCHELL, a Director, and an executive of the Poinsett Lumber & Mfg. Co., Pickens, S. C., will continue another year as chairman of the Forestry Committee.

NORTHWEST WOOD PRODUCTS CLINIC will hold its annual meeting in the Davenport Hotel, Spokane, Wash., April 1 and 2, 1952. The program will include the following four panels: Panel 1—Package Handling of Small Logs; Panel 2—Debarking Equipment and Methods; Panel 3—Hardboard Manufacture; Panel 4—Reprocessing Stock in Saw and Planing Mills.

I. T. WILLIAMS, Partner, Ichabod T. Williams & Sons, New York City, was elected President of the MAHOGANY ASSOCIATION, INC., at the 30th annual meeting in Chicago, January 28, 1952. Other officers elected were: HARRY A. FREIBERG, JR., Secretary, Freiberg Mahogany Co., New Orleans, elected Vice-President; ROBERT P. THOMPSON, President, Thompson Mahogany Co., Philadelphia, elected Treasurer; GEORGE N. LAMB, Chicago, was re-elected Secretary-Manager.

CHARLES R. CROUCH, Vice-President and Secretary, Campbell Lumber Co., Tullahoma, Tenn., was elected President of the AMERICAN WALNUT MANUFACTURERS ASSOCIATION, INC., at its 39th annual meeting recently held in Chicago. Other officers elected were: CHARLES GLEASON, President, The Frank Purcell Walnut Lumber Co., Kansas City, Kas., elected Vice-President; CLARENCE SWORDS, President, Swords-Morton Veneer & Lumber Co., Rock Island, Ill., Elected Treasurer; BURDETT GREEN, 666 Lake Shore Drive, Chicago, re-elected Secretary-Manager.

SOUTHERN PLYWOOD MANUFACTURERS ASSOCIATION has moved its offices to 65 Peachtree Place, N. E. Atlanta, Ga.

New Firms

ROBERT H. BYRNE recently organized the AMERICAN WOODWORKING MACHINERY CO., 100 Liberty St., Hackettstown, N. J. He had previously spent 12 years with the American Saw Mill Machinery Co., where he

Robert H. Byrne

was Vice-President and Sales Manager of the woodworking machinery division. Mr. Byrne is President of the new organization.

The other officers are: R. D. WALL, Vice-President; J. W. BIRCHARD, Vice-President; G. D. MAYBERRY, Treasurer, and L. A. WEIMER, Secretary.

"The new company," Mr. Byrne said, "is a nationwide selling organi-

(Continued on page 74)

there's a MONITE GLUE....

to solve your GLUING PROBLEM!

WHAT ARE *YOU* GLUING? Is it furniture . . . plywood . . . laminated structural members? Whatever it is . . . if you want maximum strength, water resistance, top speed production and lower manufacturing costs . . . there's a Monite Glue especially designed to solve *your* gluing problems.

LIQUID, RESIN and CASEIN—all members of the famous Monite family of quality adhesives—are available now to meet your requirements for water resistance, working life, joint strength, application ease, hot or cold bonding, etc.

Gluing Problems . . . whether specific gluing applications or general glue room operation . . . it will pay you to draw on our 35 years' experience in development and manufacture of glues. Send us your problems—there is NO OBLIGATION.

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TRADE MARK MONITE WATERPROOF GLUE

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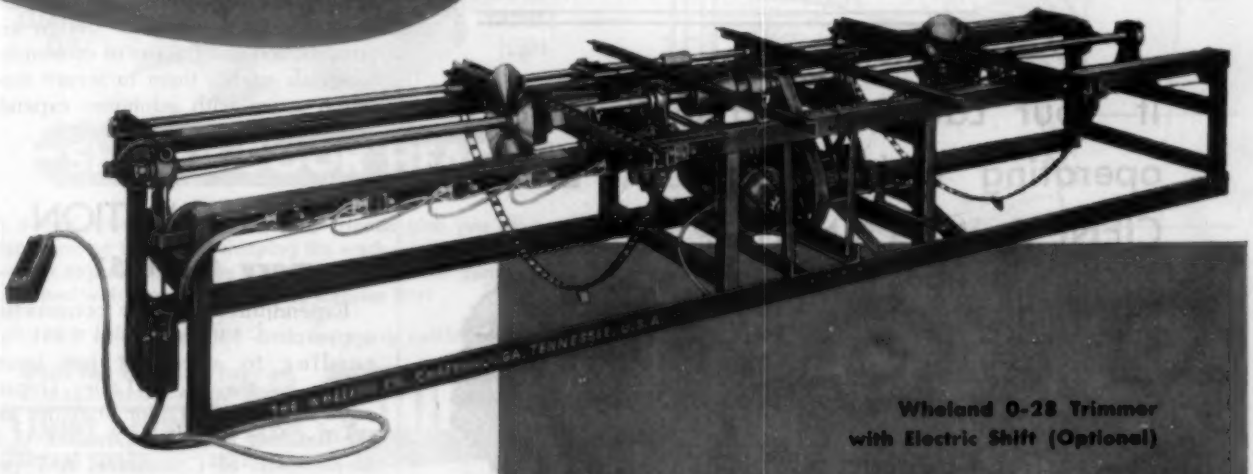
1628 NORTH 2ND, MINNEAPOLIS 11, MINNESOTA

WHELAND 0-28

IRON AND STEEL TWO SAW TRIMMER

NOW AVAILABLE with electric saw shift AS OPTIONAL EQUIPMENT



Wheland 0-28 Trimmer with Electric Shift (Optional)

ONE MAN OPERATION. *All controls easily accessible.*

EASILY MOVED. *Welded structural steel frame in two sections, easily bolted together in center. Very strong, rigid. Entirely self-contained.*

TIMKEN TAPERED ROLLER BEARING SAW ARBOR. *Saw arbor has four bearing boxes and arbor is key seated full length. Pressure grease lubricated.*

SAWS *changed easily and quickly without disturbing bearing adjustment.*

TWO SPEED FEED WORKS *is self-contained and built into the frame. You can start, stop or change speed with the single conveniently located control.*

CHAIN GUIDES *are structural steel, welded together, actuated by steel cables.*

PUSH BUTTON CONTROL CAN BE LOCATED TO SUIT OPERATOR'S CONVENIENCE.

SAWS ARE SHIFTED BY LEVERAGE NEAR THE CENTER OF THE SAW. EASIER TO SHIFT AND PREVENTS BENDING OF SAWS AND CRAMPING OF SAW COLLARS ON MANDREL.

BULLETIN WITH DETAILS AND SPECIFICATIONS ON REQUEST

The WHELAND Company

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FOR OVER 80 YEARS . . . THE FOREMOST NAME IN SAWMILL EQUIPMENT

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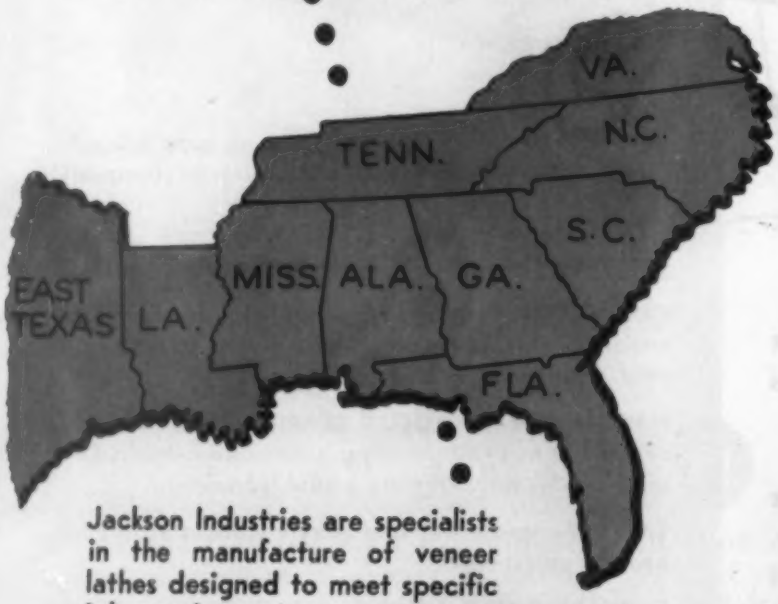
Over

170 JACKSON VENEER LATHES

IN OPERATION IN THE SMALL AREA SHOWN BELOW ALONG WITH NUMEROUS OTHERS THROUGHOUT THE COUNTRY.

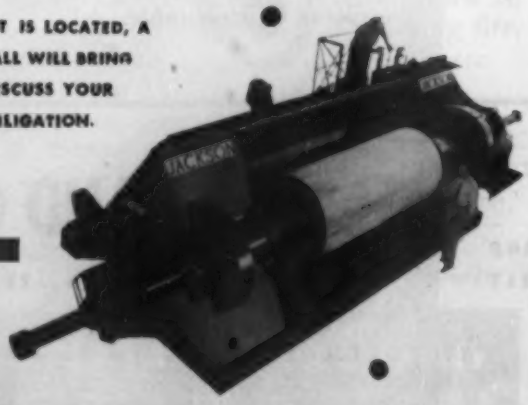
Such Widespread Acceptance must be Deserved!

If Your Lathe Department is not operating with MAXIMUM EFFICIENCY, WE CAN HELP YOU!



Jackson Industries are specialists in the manufacture of veneer lathes designed to meet specific job requirements.

NO MATTER WHERE YOUR PLANT IS LOCATED, A LETTER, WIRE OR TELEPHONE CALL WILL BRING A JACKSON ENGINEER TO DISCUSS YOUR PROBLEMS. THERE IS NO OBLIGATION.



JACKSON INDUSTRIES, INC.
VENEER MACHINES DIVISION
BIRMINGHAM, ALABAMA

TRENDS

(Continued from page 12)

result of a recent survey of architects and contractors which shows that 221 warehouses, 196 industrial, 99 recreational and 133 commercial projects are now being designed and planned for timber construction in the near future. Association spokesmen point out that businessmen are turning to commercial and industrial buildings constructed of wood, since they find that modern methods of design and construction and the use of economical materials enable them to secure maximum space with minimum expenditure.

CONSTRUCTION

Summary for 1951

Expenditures for new construction approached $30 billion in 1951, according to a report just issued jointly by the U. S. Labor Department's Bureau of Labor Statistics and the Building Materials Division, U. S. Department of Commerce. A 7 percent increase over the 1950 total of nearly $28 billion resulted from larger public outlays for military construction, defense plants, and schools.

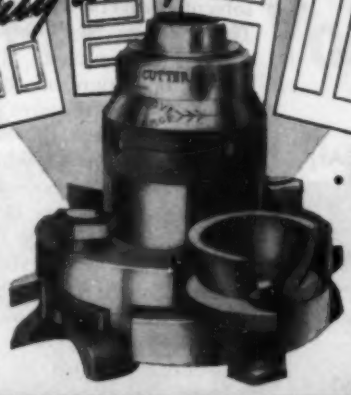
On a seasonally-adjusted basis a gradual reduction in total construction activity took place during the last half of 1951 from record levels of the preceding 18 months. A decline in new private homebuilding, restrictions on commercial building, and delays in non-defense construction projects, generally because of materials shortages, contributed to the downward trend of new construction. Indications are that these factors will continue to have a depressing effect on the total volume of new construction in 1952.

WOODICTIONARY

BULLDOZER

A standard crawler-type tractor having a heavy steel blade mounted across the front at a right angle to the tracks.

for high speed, top quality door production!



• WITH EXCLUSIVE ALL AROUND CLEARANCE CUT!

• WILL NOT CHIP THE WORK AT THE FASTEST FEED!

SHIMER DOOR HEADS

4, 6 and 8-bit model Shimer Door Heads give you all-around clearance cut to prevent chipping the work — at the fastest feeds — plus expansion feature for wider or narrower panel grooves! Equipped with long-lasting Shimer Circular Bits!

there's a Shimer Head or Cutter for every cutting problem...

WRITE FOR YOUR FREE COPY OF OUR ILLUSTRATED PATTERN BOOK!

SAMUEL J. SHIMER & SONS, Inc.
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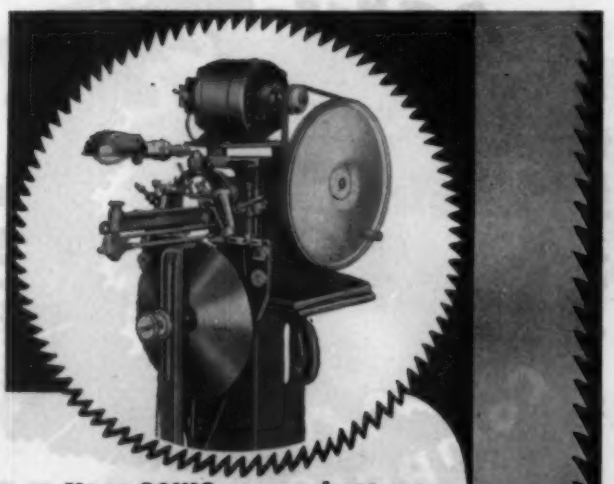
SHIMER



Your SAWS are no better than your SAW FILING

Inaccurate saw filing can ruin the cutting efficiency of the best saws, perhaps crack or break them. The machine precision of Foley Saw Filing can increase your sawing output 25% to 40%. The Foley *automatically* joints the saw as it is filed, making all teeth uniform in size, height, spacing. Foley-filed saws run cooler, cut fast, do beautiful work—and stay sharp longer.

30-DAY TRIAL of the Foley Saw Filer is offered—to show you what a difference Foley-filed saws can make.

FOLEY *Automatic* SAW FILER

FOLEY MFG. CO., 3308 N.E. 5th St., Minneapolis 18, Minn.
Please send literature on the Foley Automatic Saw Filer and details of your 30-Day Trial.

*Name*_____

*Address*_____

That little wood bung is sure going to help this fellow! And, PAMUDO can help you, too, on your Wood Products problem. For Pine and Fir cut-stock; factory grade Pine; Fir Plywood in standard sizes or cut to size—it's PAMUDO.
Our thirty-nine years of service to Industrial users of Plywood and lumber products assure you a dependable source of supply.

IF YOU HAVE A WOOD PRODUCTS PROBLEM, CALL

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GENERAL OFFICE • Direct Shipments . . .
Straight and Mixed Cars.
Lumber and Lumber products Fir and Pine Mouldings, Doors, Plywood and Cut-Stock.
Stock Millwork—Cut-to-size Industrial Plywood.

TACOMA BUILDING, TACOMA 2, WASHINGTON
Warehouse stocks of
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WAREHOUSES IN 5 PRINCIPAL CITIES
- St. Paul 4, Minnesota
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WOOD SPECIFICATIONS

(Continued from page 49)

JAN-P-122A	Packaging & packing for overseas shipment—Barrels, slack (for barrels whose weight of content does not exceed 1,000 pounds)	100-28A (USAF)
JAN-P-132	Packaging & packing for overseas shipment—Crates, unsheathed, wood; nailed (for maximum net load of 2,500 lbs)	100-53 (USAF)
JAN-P-134A	Packaging & packing for overseas shipment—Kegs, slack (for kegs whose weight of contents does not exceed 250 pounds)	100-36A (USAF)
JAN-P-138	Packaging & packing for overseas shipment—Boxes, wood fibreboard lined (for weight of contents not exceeding 500 lbs.)	100-67 (USAF)
JAN-P-139	Packaging & packing for overseas shipment—Plywood, container grade	AN-P-72 and 100-61 (USAF)
MIL-B-3060	Boxes, ammunition, caliber .30 M 19 and M 19 alternate	
MIL-B-2427	Boxes, ammunition, packing, wood, nailed	50-62-4B (Ord)
MIL-B-10377	Boxes, Wood - cleated, veneer - craft board	
MIL-B-107A JAN-B-718	Boxes, wood, wirebound (overseas type) Box, small arms, ammunition, Mark I, Model O	
MIL-C-6057	Crates & boxes; aircraft & airframe component parts (general specification for)	

(Continued on page 65)

SOLVENTS

(Continued from page 38)

operation of drying, impregnation an solvent recovery was about 22 hour The final moisture content was foun to be 4 to 8 percent.

The operation of the solvent re covery process requires no additiona equipment except that which is use for Vapor-Drying, which may b attached to any conventional woo preserving cylinder. Descriptions o the equipment will be found in vari ous publications covering the Vapor Drying Process (5) (6).

The cost of the solvent recovery operation is more than offset by the substantial savings in the value of solvent and copper naphthenate recovered during the operation. Moreover, it assures a controllable production of lumber that is immediately usable without having to employ a long period of air seasoning after treatment, which is of doubtful value in the certain elimination of the hazardous solvents contained in the wood. Also, it affords a product that is truly clean and paintable. By utilizing the Vapor-Drying Process for the seasoning of the wood, it is possible with a

(Continued on page 76)

WILLOW

IS FEATURED IN '52

FOR
FURNITURE
CABINETS
PANELING
CASKETS
CORES

Our three mills are located in the Mississippi, Atchafalaya and Red River basins of Louisiana which produce the finest Willow in America.

Large and well assorted stocks of this fine willow are ready for immediate mill shipments at all times. We can meet your exact needs, all thicknesses and grades 4/4" to 8/4" or include in mixed cars with Port Barre white ash and other Southern Hardwoods. Prompt attention will be given to all inquiries.

The Port Barre Lumber Industries, Inc.

Manufacturers of Southern Hardwoods
Port Barre, La.

CARBIDE TIPPED SAW BLADES

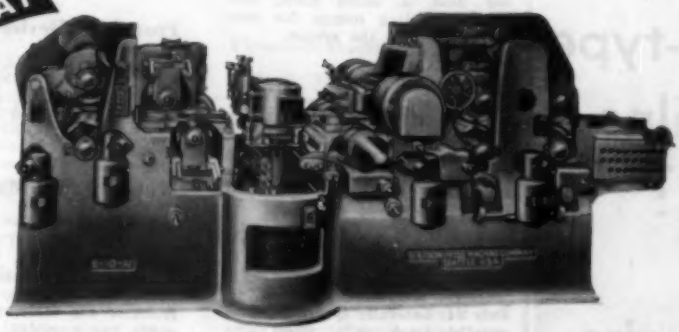
with any others and you'll agree they're outstanding. Cut with equal ease thru plywood, laminated wood, teak, fireproof lumber, linoleum, plastics etc. Huther Quality in Carbide Saws is a "standard" among leading craftsmen.

Write for folder

HUTHER BROS. SAW MFG. CO., INC.
1290 University Ave. • Rochester 7, N. Y.
SAW MAKERS FOR OVER 65 YEARS

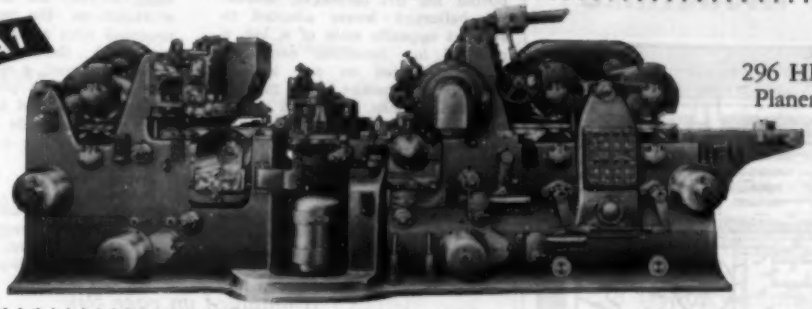
Whether You Plane 40M or 300M Board Feet Per Day You Can Reduce Costs With Stetson-Ross

6-10-A1



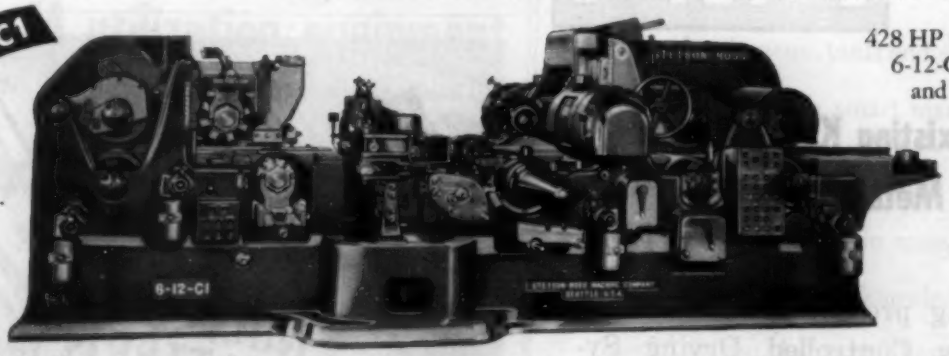
180 HP 8 or 10-knife model 6-10-A1 Planer, Matcher, and Double Profiler (E. E. Splitter) for feed speeds up to 350 feet per minute, and rated daily output per shift of 40M to 100M board feet.

6-12-A1



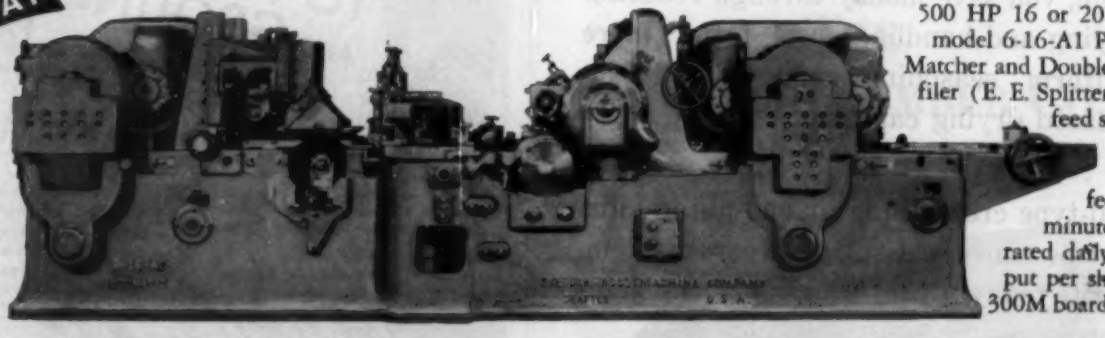
296 HP 10 or 12-knife model 6-12-A1 Planer, Matcher, and Double Profiler (E. E. Splitter) for feed speeds up to 480 feet per minute, and rated daily output per shift of 60M to 150M board feet.

6-12-C1



428 HP 14 or 16-knife model 6-12-C1 Planer, Matcher, and Double Profiler (E. E. Splitter) for feed speeds up to 750 feet per minute, and rated daily output per shift of 70M to 175M board feet.

6-16-A1



500 HP 16 or 20-knife model 6-16-A1 Planer, Matcher and Double Profiler (E. E. Splitter) for feed speeds up to 1000 feet per minute, and rated daily output per shift to 300M board feet.

Reduce Costs with Stetson-Ross

You are invited to write for the free 8-page illustrated booklet entitled "The ABC's of Planing Mill Layout."

STETSON-ROSS MACHINE COMPANY
SEATTLE 4, WASHINGTON

Export Division, 301 Clay Street, San Francisco 11, California

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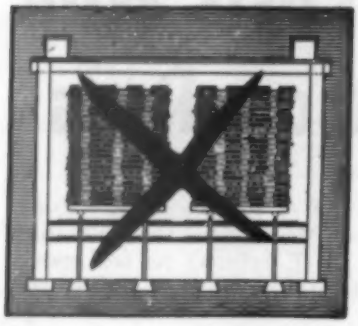
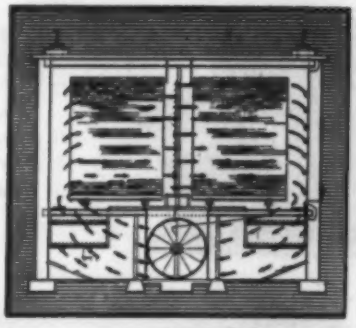
Why Waste Money on Old-type Kilns ?



When You Can Modernize To Moore *Cross-Circulation* System



Utilize Existing Kiln Buildings And Metal Equipment

By converting present kilns to Moore Automatically Controlled Drying System, you save money through reducing drying and handling costs, faster, more uniform seasoning, and 30-60% increased drying capacity.

Old-type cross-piling or end-piling kilns can be converted to the Moore System. Write today for information—no obligation.

MOORE DRY KILN COMPANY

Oldest and Largest Manufacturers of Dry Kilns and Veneer Dryers

JACKSONVILLE, FLORIDA · BRAMPTON, ONT. CANADA · VANCOUVER, B. C. CANADA · NORTH PORTLAND, OREGON

PATENT DIGEST

by Royden C. Rinker

Lumber Dipping

A. E. Downes. U. S. 2,559,286, July 3. Lumber treating apparatus comprising a tank for treating fluid, a baffle plate, and lumber guiding means for conveying through the system.

Resin

T. R. McElhinney (to Valite Corp.). U. S. 2,560,299, July 10. Resinous reaction products of a phenol with aldehydes and ketones obtained by acid hydrolysis of ligno-cellulosic materials.

Log Groover

D. W. Merrill. U. S. 2,561,746, July 24. Laterally spaced pairs of parallel track rails, wheel supported log lift carriages, including bellcrank levers adapted to support opposite ends of a log, a pair of log receiving centering blocks mounted on one leg of said lever, means for moving centering blocks, a toothed gripping member mounted on the carriage, means for pivoting the lever to raise the log into position so that an end opposes the gripping member, a second carriage including a grooving saw and means for moving carriages past one another whereby the log is grooved.

Clamp

E. L. Hollywood (to Pan-Continental). U. S. 2,561,864, July 24. Sawhorse clamp.

Protecting Device

P. Carn. U. S. 2,561,905, July 24. Protecting device for band saws, circular saws, spindle molding machines, and other woodworking machines.

Woodworking Machines

W. L. Van Dam and M. J. Karr (to Atlas Press). U. S. 2,562,246, July 31. Woodworking machine having a table, a gauge bar with indicia mounted at the front of the table, an adjustable guide bar provided with a cross head, a rack on the cross-head, a clutch on the cross-head and provided with a clutch jaw coacting with the gauge bar, an actuating lever, a manual spindle provided with a pinion coacting with the rack, and table clamping jaws on the guide bar.

Lignin Resins

R. N. Evans and A. P. Ingrassia (to Masonite Corp.). U. S. 2,562,898, Aug. 7. Reaction product of alkali-soluble lignin,

(Continued on page 59)

Your milled-to-pattern bits must be more than a "reasonable facsimile" of your design. All basic dimensions must be held within ground tolerances of less than .001 of an inch. Heat treating specifications must be strictly adhered to.

At Wisconsin, all this adds up to finest high speed tool steel, accurate milling, precise control of heat treating, and the final accurate pattern grinding. The results are milled-to-pattern bits of assured durability, precision and stability . . . faithful reproduction of your pattern on modern high speed machines, for millions of running feet of marketable stock.

CUTTER HEADS BADGER KNIVES

Engineers to the Woodworking Industry

WISCONSIN KNIFE WORKS

BELOIT, WISCONSIN

rfural, an aminotriazine, and n aldehyde.

aminated Airfoil

R. G. Winnick (to United ircraft Corp.) U. S. 2,562,976, ug. 7. Laminated composite of pace metal surface sheets, an ntermediate core sheet of ad- esively bonded wood pieces onded to the surface sheets.

Airfoil

G. F. Darracott, G. N. Barba, nd L. Reichert (to United States Aircraft Corp°.). U. S. 2,563,218, Aug. 7. Fabricating sharply bent airfoil sections of composite laminates comprising assembling a core of pieces of wood, bonding to form a core and bonding metal faces on both sides.

Building Construction

L. S. Bonney. U. S. 2,563,703, Aug. 7. Log building construction using logs having grooved chanels for engagement with one another.

Logging Bunks

A. Nystrom. U. S. 2,563,737, Aug. 7 Log carrying bunk for a vehicle having a safety stake.

Dyestuff Powders

V. S. Slavin and W. J. Irvin (to Celanese) U. S. 2,574,597, Nov. 13. Milling a dyestuff paste, lignin sulfonate, an inorganic salt and water and spray-drying.

Adhesive

C. C. Heritage (to Weyerhaeuser Timber Co.) U. S. 2,574,784-5, Nov. 13. Adhesive comprising a phenol-aldehyde resin and the reaction mass resulting from reacting comminuted bark water and alkali.

Plywood Bonding

W. G. VanBeckum and H. L. Cook (to Weyerhaeuser Timber Co.) U. S. 2,574,803, Nov. 13. Reaction product of comminuted bark phloem and an alkali metal compound and adhesives therefrom.

Tool Fence

W. Copp (to Callender Foundry and Mfg. Co., Ltd.) U. S. 2,575,250, Nov. 13. An adjustable tool fence for a woodworking machine.

Log Barking

E. C. Shaw (to Allis-Chalmers Mfg. Co.) U. S. 2,575,302, Nov. 13. Hydraulic log barking machine having support for log rotating rollers tiltable to laterally discharge the log.

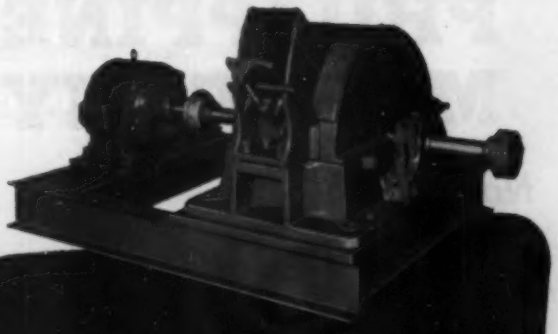
Bark Removal

E. A. Laulaineu. U. S. 2,575,-

(Continued on page 60)

M & M utilization equipment

For Hardboard Manufacturing



Let M & M Disposal Equipment turn your waste into profits. These machines are built in many types and sizes for slabs, edgings, trim, blocks, veneer, bark, and other combustible waste. Don't overlook the extra dollars that can come from utilizing every available bit of waste. Send us your problem and we'll show you how M & M Disposal Equipment can solve it.

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Where does ATLANTIC LUMBER go?

A McCormick 15 Marker Grain Drill, manufactured of steel, cottonwood and yellow pine, by International Harvester Company of Canada, Hamilton, Ontario.

Often hardwoods are combined with other materials to manufacture articles of lasting usefulness.

Farm implements, tools and machines are examples of such smart manufacturing.

Your Atlantic Man knows hardwoods and their application in many industries. His experience and knowledge can be useful to you. Ask and follow his advice.

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...FOR TUNGSTEN CARBIDE

☆ MEYCO carbide tipped circular saws ARE DIFFERENT, because the blade and tooth design have been engineered for tungsten carbide teeth. It is this know-how of building a carbide tipped saw from the ground up, that has made MEYCO saws popular and accepted as the standard of the industry. MEYCO saws will last longer, produce smoother cuts and save you many times their small extra cost over ordinary circular saws.

☆

Inquire, too, about the exclusive MEYCO "Vibra-Free"* development . . . the locked in dampers that eliminate excessive noise and vibration in carbide tipped circular saws. VIBRA-FREE* MEYCO saws are made so the stresses and strains, inherent in every saw blade, are more evenly distributed—producing still smoother cuts and longer life. Write for fully descriptive catalog and price list No. 27.

*PATENTED

W. F. MEYERS CO., INC., BEDFORD, INDIANA

PATENT DIGEST *Continued from page 59*

422, Nov. 20. A pile bark removing member, cable mounting means, said cable during barking contacting the surface of the pile adjacent an arc adjacent to the pile.

High Frequency Heating

W. S. Thompson (to M and M Woodworking Co.) U. S. 2,575,604, Nov. 20. High frequency heating apparatus.

Timber Mowing

R. C. Way. U. S. 2,575,696, Nov. 20. Saw attachment for a farm tractor having a power takeoff and a saw member adapted for mowing timber.

Mica Compositions

E. L. Schulman and G. S. Reeder (to Westinghouse Electric Corp.) U. S. 2,575,733, Nov. 20. Insulating material comprising mica flakes bonded with heat treated pine tar.

Log Barking

N. G. Leffler (to Svenska Cellulosa Aktiebolaget) U. S. 2,576,127, Nov. 27. Log barking machine comprising an elongated barking member, a support, means for causing translatory movement and reciprocatory movement.

Log Loading

M. M. McBride, L. L. McBride, and S. D. Curry. U. S. 2,576,127, Nov. 27. Log Loading device for a truck having a horizontal main frame and a horizontal bed spaced above the main frame and an engine including a power takeoff mechanism.

Excelsior Knife

F. H. Phillips. U. S. 2,576,190, Nov. 27. A knife for excelsior cutting having parallel grooves in its face that cooperate with the bevelled edge to form cutting teeth.

Wood Bit

H. C. Wilson (to R. H. Clark) U. S. 2,576,376, Nov. 27. Wood drilling bit for cutting large diameter holes.

Wood Treating

F. H. Lyons (to E. L. Bruce) U. S. 2,576,797, Nov. 27. Treating wood with a resin dissolved in petroleum naphtha, and an organic film forming composition in a polar solvent

Plywood Tubing

(to U. S. Plywood Corp.) U. S. 2,574,920, Nov. 13. Apparatus for forming integral molded seamless plywood tubing.

Tall Oil

T. Hasselstrom and M. Stoll (to National Distillers). U. S.

Look to Nickey Bros. Inc. For

PHILIPPINE MAHOGANY

Now available in

Lumber
Plywood
Bedrails
Glued-up Stock

We are experienced Importers of Philippine Mahogany by the shipload. Consult us today about your Philippine Mahogany needs.

NICKEY BROTHERS, INC.
MEMPHIS, TENNESSEE

Hardwood Flooring, Oak Treads,, Thresholds, Moldings, Cedar Closet Lining, Sliced and Face Veneers

,575,013, Nov. 13. Production of a refined tall oil comprising mixing sulfuric acid and sodium acid sulfate with a mixture of aqueous tall oil soap, permitting the mixture to stand for a period sufficient for the formation of an aqueous lower layer containing color bodies and a supernatant layer containing tall oil dissolved in solvent.

Log Turner

J. B. Allen. U. S. 2,571,177, Oct. 16. Power swung log turning device for sawmills comprising a base frame, a hollow vertical guide pivoted at its lower end to said frame, a reciprocating turning bar disposed in said guide and power actuating means.

Joint

R. R. Dupler. U. S. 2,571,429, Oct. 16. A pair of wooden beams, each having a notched end portion providing a flat side and a right angle abutment surface at the inner end of the notch and a strip of metal sheet with bent nailing flanges for engaging each timber to form a joint.

Scarfing Machine

H. H. Payzant (To Timber Structures, Inc.) U. S. 2,571,603, Oct. 16. Apparatus for moving a board edgewise at right angles to its length and a supporting means extending parallel with the direction of the path of travel of the board and cutting means for scarfing the end of said board.

Laminated Wood

H. H. Payzant (to Timber Structures, Inc.) U. S. 2,571,604, Oct. 16. Making laminated wooden members by applying thermosetting adhesive and curing under pressure with high frequency energy.

Woodworking Machine

V. J. Gegumis. U. S. 2,571,861, Oct. 16. Woodworking machine for surfacing and edging.

Tall Oil

W. A. Jordan and M. S. Herban (To General Mills Inc.) U. S. 2,572,035, Oct. 23. Tall oil fraction esterified with a polyalcohol.

Stabilizing Wood

A. J. Stamm and H. Tarkow (to United States of America) U. S. 2,572,070, Oct. 23. Reducing the swelling, shrinking, and hygroscopicity of wood by air drying, treating with vapors of a ketal and an acetal forming reagent and thereafter treating with mineral acid vapor.

Veneer Clippers

J. X. Ambeault (To Commonwealth Plywood) U. S. 2,572,581, Oct. 23. Apparatus for feeding a sheet of wood veneer to a clipper.

Phonograph Record

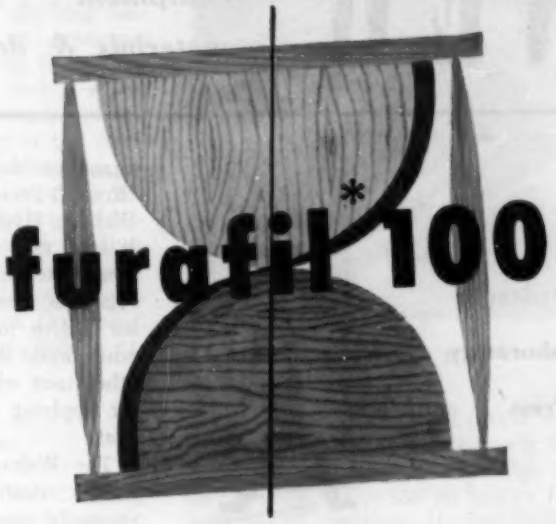
J. W. Ayers (to Agrashell, Inc.) U. S. 2,572,798, Oct. 23. Phonograph record made of vinyl resin and lignocellulose.

Skate Roller

G. M. Bloom. U. S. 2,572,835, Oct. 30. Wooden roller construction for roller skates.

Quality Woodworkers choose WAPAKONETA Knives.
"BIG CHIEF" for General Purpose High Production Work.
"MOHAWK" for Southern and similar soft woods.
For dependable high speed production use...
Wapakoneta
BIG CHIEF and MOHAWK
HIGH SPEED KNIVES
THE WAPAKONETA MACHINE CO.
WAPAKONETA, OHIO
INCORPORATED 1891

now is the time to try



NEW Extender For Phenolic Plywood Glues

Furafil 100 is a new low-cost extender for phenolic resin glues used in exterior plywood. This new product is commercially available now and is shipped in carload or truckload lots from Tacoma, Washington, and Sharonville (Cincinnati), Ohio.

Furafil 100 is a chemically processed agricultural material available throughout the year. It is made up principally of modified lignin, cellulose, and resinous material with the lignin and resins accounting for about 40% of the total. Furafil 100 is ground to meet the following specification:

Through 100 mesh—99%
Through 200 mesh—95%
Through 325 mesh—90%

Glue formulations with Furafil 100 are now in use in the Douglas fir plywood industry. Furafil's low cost, high resin content, uniformity and ready availability make it an excellent glue extender.

Consider Furafil 100 as a new means to improve your glue line quality and lower your cost. Write for samples and try this new extender.

* Reg. U. S. Pat. Off.

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QO CHEMICALS DEPT.

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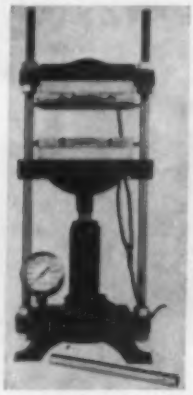
NEW

Products . . . . processes
equipment . . . . methods
materials & developments

Hydraulic Laboratory Press



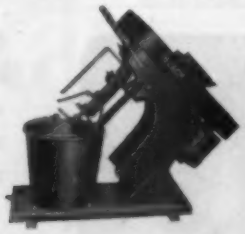
The Hydraulics Division of Wabash Metal Products Company, Dept. W, P. O. Box 305, Wabash, Indiana announce their new 3-ton, Wabash "Econ-O-Press", model number 3-8, Wabash Hydraulic Laboratory Press. It is a unit especially designed and constructed to meet the needs of photographic laminating shops, laboratories and/or manual training shops in educational institutions, and for many other uses wherever there is a need for applying moderate pressure with heat.

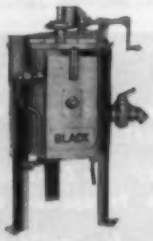
The Wabash "Econ-O-Press" is of sturdy construction incorporating a manually operated hydraulic mechanism which provides a total available force of 6,000 pounds. A quality gauge indicates pounds per square inch on the ram. Conversion from ram pressure to force is readily made. Provision has been made so that extraction cages can be used for conversion to a filter press.

7-Inch Standard Industrial Sander

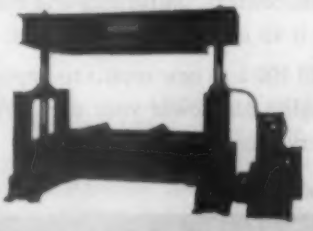
Compact and light (only 7⅛ lbs.), yet with ample power and capacity for continuous production use, the New Millers Falls No. 870 7-inch Standard Industrial Sander is designed

BLACK'S COMPLETE LINE OF.....





GLUE SPREADERS • MIXERS • HEATERS



COLD PRESSES • CLAMPS

Illustrated here are but a few of the more popular items in the Black Brothers Line of *Laminating and Gluing Equipment.* Whether you require small hand-operated bench equipment, or huge, high-production spreaders and presses, Black's can furnish your needs. Over 70 years of engineering experience is behind Black Brothers internationally recognized superiority in gluing and laminating equipment. Write for your free copy of Black's Catalog No. 11 today.

"If it's Gluing Equipment, we have it"

THE BLACK BROTHERS COMPANY, INC.

800 4th STREET • MENDOTA, ILLINOIS

…r fast sanding, wire brushing, grinding and polishing on metal, wood, …le, plastic, glass, concrete and other …rfaces.

In addition to use with standard …heels, discs and brushes, it offers …erformance with the new laminated …henolic grinding wheels and discs. It is ideally suited for woodworking …lants and for auto body and paint …hops. Write the Millers Falls Co., Dept. W, Greenfield, Mass.

New Light Duty Grinder

The new Rogers "NT Junior" is designed to combine speed and low cost for precision grinding of woodworking, paper cutting and other straight knives. It is intended for light-duty work and is said to incorporate many of the advanced grinding features to give efficiency and economy.

One of the outstanding features is the separate reversing motor which drives the sturdy reciprocating knife table assembly. Another is the combination of carefully machined angular "V" and flat ways over which the table travels. These broad ways transmit all grinding pressures to the base of the machine where they are easily absorbed. For further information contact Samuel C. Rogers & Co., Dept. W, 193-210 Dutton Ave., Buffalo 11, N. Y.

Hydraulic Drill Units

The Delta Power Tool Division, Rockwell Manufacturing Company, Dept. W, 600 East Vienna, Milwaukee, Wis., announces the availability of a new 12-page catalog, featuring the Delta 19-150 and 19-400 Hydraulic Drill Units.

These units are of simple design developed for drilling, reaming, tapping, chamfering, spot facing, centering, et cetera. They are basic units adaptable to special machines for high production work.

Hand Screw Driver for Phillips Screws

This new type of hand driver with removable low cost Phillips Insert Bits is for driving screws with Phillips Recessed Heads. For use on factory line or in home workshop, Hy-Pro Phillips Adapter Hand Drivers and Holders take interchangeable bits. When one wears out it can easily be removed and replaced. There are four different sizes of Phillips Bits, but the No. 2 size insert bit will drive from 75 to 80 percent of all screws with Phillips Recessed type heads. For further information, write Continental Screw Company, Dept. W, New Bedford, Mass.

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VENEER COMPANY

MANUFACTURERS OF
ROTARY, SLICED AND HALF-ROUND

VENEERS
IN
BIRCH—MAPLE—BASS—ASH—OAK—ELM—WHITE PINE

GENERAL OFFICES
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P. O. BOX 110
TELETYPE, MELLEN 29—PHONES 205 - 3313

THE ARISTOCRATS IN
BIRCH—MAPLE—RED OAK—WHITE OAK—ASH—BASSWOOD—ELM—WALNUT—MAHOGANY

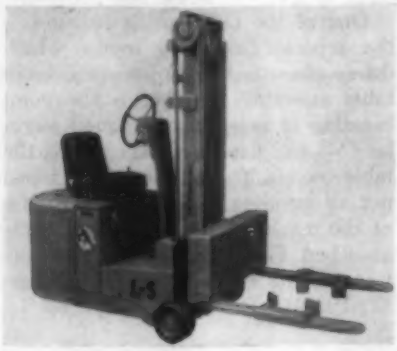
PLYWOODS

SPLICEDWOOD
CORPORATION
MELLEN, WISCONSIN
P. O. BOX 110
TELETYPE, MELLEN 29—PHONES 205 - 3313

Random Size Box Lidder

A new machine which automatically end nails lids on boxes of mixed sizes has been developed by engineers of Food Machinery & Chemical Corporation, Packing Equipment Division at Dept. W, Riverside, Cal.

An 8 page bulletin, picturing and describing this new Random Size Box Lidder has just been released. The new Lidder automatically adjusts its nailing mechanism to any size box, from a minimum of 6 in. deep, 6 in. wide and 15 in. long, to a maximum of 18 in. deep, 24 in. wide and 50 in. long, end-nailing lids at the rate of 400 to 600 boxes of mixed sizes per hour. Only one operator is required to run this machine.



L-S Spacemaster "49"

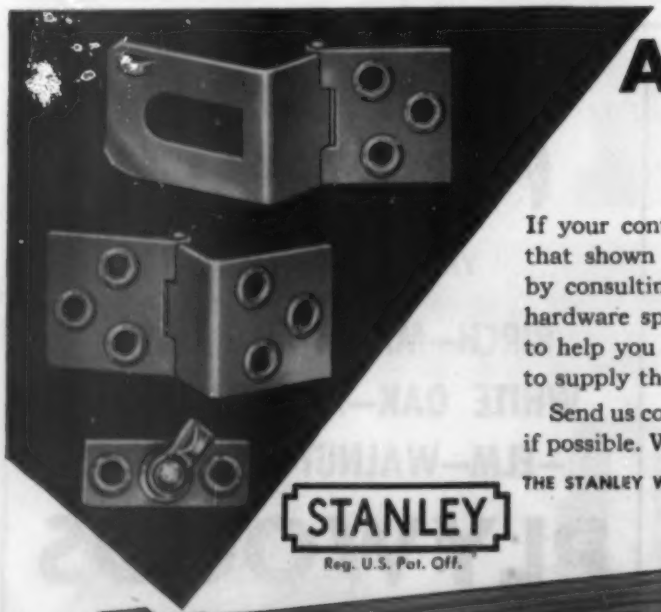
To handle drums and other cylindrical objects, Lewis-Shepard has developed for their new Spacemaster "49" Electric Fork Trucks, hydraulically operated clamping forks which can be fitted with self-aligning rubber faced gripping pads when required.

The horizontal movement of the forks is produced by two double acting hydraulic rams synchronized to give uniform motion to each fork. Hydraulic power is supplied from the Fork Truck hydraulic system (used for lifting and tilting the load) and the manual control valve is conveniently located.

The clamping pressure of the forks is controlled by a hydraulic by-pass relief valve that is readily adjustable to suit the loads to be carried. For complete information, write the Lewis-Shepard Products Inc. Dept. W, 191 Walnut Street, Watertown, Mass.

Box Sander

An economical way to cut costs and save time by renewing old or used wooden boxes, is with a Whirlwind Box Sander. High speed abrasive action cleans up paper end labels and heavy stamped imprints on boxes quickly and efficiently. Depending on



Ammunition Box Hardware

If your contracts call for hardware for ammunition boxes like that shown here, or for other ordnance equipment—save time by consulting Stanley. The largest manufacturer of hinges and hardware specialities, The Stanley Works has the "know-how" to help you develop the items you need, and the plant facilities to supply them on time.

Send us complete details of your requirements, including prints, if possible. We'll help you meet delivery commitments.

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STANLEY
Reg. U.S. Pat. Off.

HARDWARE • TOOLS • ELECTRIC TOOLS • STEEL STRAPPING • STEEL

WOOD SPECIFICATIONS *(Continued from page 56)*

MIL-C-5406	Crates; wood, open, demountable 10,000 pounds maximum net load	2400 (USAF)
MIL-C-11133	Crates, Wood, wirebound (QMC)	
NN-B-109	Barrels; wood, slack	
NN-B-112	Barrels; wood, tight (for liquids)	
NN-K-231	Kegs; wood, slack	
NN-B-591	Boxes; wood-cleated-fiberboard	
NN-B-60lb	Boxes; Wood cleated plywood (for) domestic shipment	
AXS-1730	Boxes; wood cleated, plywood (for domestic shipment)	
AXS-1728	Boxes; wood cleated; solid fiberboard (for domestic shipment)	
AXS-1736	Boxes; wood nailed (for domestic shipment)	
NN-B-621b	Boxes; wood, nailed and lock-corner.	
NN-B-631c	Boxes; wood, wirebound, (for domestic shipment)	
JAN-B-107	Boxes; wood, wirebound (overseas type)	
100-73	Crates; wood, nailed, domestic shipment, 1,000 pounds maximum net load	
97-54-380	Box, plywood, metal-bonded, general specification	
97-54-319	Box, shipping and table	
23-1D	Boxes, cabinets, chests and crates, engineer equipment	
Plan 630-A	Collapsible container for household effects	
97-54-395	Crate, drum type-general specification, (USAF)	
97-54-322	Drum, plywood, 20 gallon capacity. (USAF)	
97-54-313		

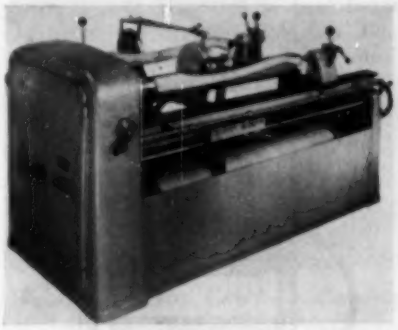
PALLETS

MIL-P-15011A (S&A)	Pallet, wood, 40" x 48", (4 way general purpose)
MIL-P-15943 (S&A)	Pallet, wood, 48" x 72", 2 way stevedore (cargo)
NN-P-71	Pallets, materials handling wood (general construction requirements)
MIL-P-10709	Pallet, stevedoring, wood 4 x 6 foot, knockdown (TC)
MIL-P-16496 (S&A)	Pallet, softwood (hardwood posts) 40" x 48", 4-way, nailed construction, general purpose
TT-W-531	Wood preservative; anthracene-oil (for brush, spray, and open tank treatment)
TT-W-546	Wood preservative; celcure (acid-cupric-chromate)
TT-W-549	Wood preservative, chemonite (ammoniacal copper arsenite)
TT-W-551	Wood preservative; chromated-zinc-chloride
TT-W-556a	Wood preservative; coal-tar-creosote
TT-W-560	Wood preservative; coal-tar creosote (crystal-free), (for) brush, spray, or open-tank treatment
4-116	Wood preservative concentrate: pentachlorophenol
TT-W-566a	Wood preservative; creosote-coal-tar-solution
TT-W-568	Wood preservative; creosote-petroleum-solution
TT-W-570	Wood preservative; pentachlorophenol

(Continued on page 66)

the condition of used boxes, an operator can handle from 60 to 250 an hour.

Further information about the Holt Box Sander may be had by writing to Holt Manufacturing Company, Dept. W, 651 20th Street, Oakland 12, California, or 272 Badger Avenue, Newark 8, New Jersey.

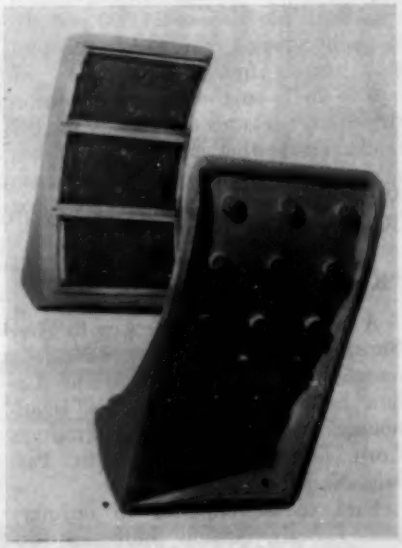


Automatic Carving Machine

The Woodworking Precision Machinery & Tool Co., Inc. is now introducing a Swiss-made automatic carving machine in the U. S. One model of this machine, called the KMG, will follow a master pattern automatically and carve two legs at one time.

The operator's only job is to load the machine and then remove the finished stock. While the machine is working he may finish-sand the carved piece.

More information may be obtained by writing to the Woodworking Precision Machinery & Tool Co., Inc. Dept. W, 224 Fifth Avenue, New York City.



Drum Handling Arms

Two new lift truck attachments for handling drums have been developed. They are the new Model "20" Two-

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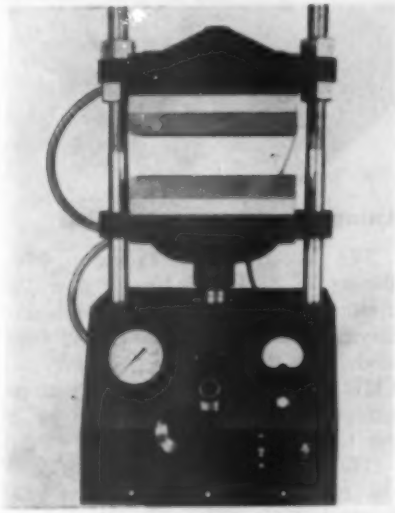
Drum Handling Arms and the new Model "40" Four-Drum Handling Arms with replaceable pads. They feature a specially-designed, steel-backed, replaceable rubber pad.

The standard Hyster Model "20" equipped with the new Two-Drum Arm has an average rated load of 1990 lbs. With the new Four-Drum Arm the Model "40" has an average rated load of 2800 lbs. Specifications and complete details are available from Hyster Company, Dept. W, 2902 N. E. Clackamas St., Portland 8, Orgeon.



Hydraulic Laboratory Press

The Hydraulics Division of Wabash Metal Products Company announces the new 12-ton, model number 12-10, Wabash Hydraulic Laboratory Press in which the flexibility of operation has been maintained.

A hydraulic mechanism provides a total available force of 24,000 pounds. A quality gauge, mounted in the control panel, indicates pounds per square inch on the ram. Conversion from ram pressure to force is readily made. For further information, please address: Hydraulic Division, Wabash Metal Products Company, P. O. Box 305, Dept. W, Wabash, Indiana.

"Key to Finishing Problems"

A new brochure, "The Key to Your Finishing Problems", describing the features of the Pressure-Cooled Airflow buffs and Aircon wheels, is announced by the United Buff Products Corp., Dept. W, 233-41 Oak St., Passaic, N. J.

Said to be superior to ordinary cooled buffs, Airflow buffs are designed to provide substantial reductions in finishing time and to permit higher production with no sacrifice of quality. Write to the manufacturers for further information.

TT-W-571c	Wood preservative; recommended treating practice	
TT-W-573	Wood preservative; Wolman-salt (Tanalith)	
TT-W-576a	Wood preservative; zinc-chloride	
TT-W-581	Wood preservative, zincmeta-arsenite (ZMA)	
MIL-C-2799	Chemicals, fire retardant for lumber and timber (recommended treating practice)	51C40
JAN-P-116	Packaging & packing for overseas shipment-preservation, methods of	
3-186	Sealer, wood preservative (O)	
MIL-P-906A	Wood preservative, water repellent	MIL-W-906(Ships)
4-116	Wood preservative concentrate pentachlorophenol	
MIL-P-7000	Preservative; water repellent	AN-P-76
52-W-5	Preservative, wood, water repellent	
MIL-C-2865	Chemicals, fire retardant, for lumber and timber	

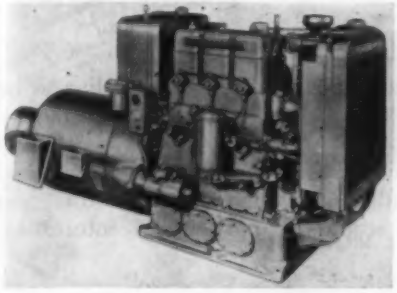
LUMBER, PLYWOOD, AND ALLIED SPECIFICATIONS

MIL-W-6110	Wood; determination of Moisture content of	AN-W-3
MIL-W-6108	Wood; determination of Specific gravity of	AN-W-4
MIL-W-6109	Wood; method of kiln drying	AN-W-2
MM-L-751c	Lumber and Timber; softwood	
MM-L-736	Lumber and Timber; hardwood	
MIL-P-66A	Plywood; flat panel	
JAN-P-139	Packaging & packing for overseas shipment plywood, container grade	
MIL-P-6070	Plywood and veneer, aircraft flat panel	
MIL-P-6069	Plywood, aircraft, molded (fluid pressure)	
MIL-S-6073	Spruce, aircraft	
MIL-P-6067	Pine, aircraft, sugar	
MIL-P-6068A	Pine, aircraft, western white	
MIL-P-6071	Poplar, aircraft, yellow	
39-A-2	Ash, white (aircraft use)	
MIL-F-5560A	Fir, aircraft, noble	
MIL-H-6182	Hemlock, aircraft, western	
MIL-F-5561A		
MIL-P-6062A	Pine, aircraft, eastern white Fir, Aircraft, Douglas	
MIL-L-6061	Lumber, aircraft, propeller	
MIL-P-2134	Pine, southern yellow (decking & 39-P-12b planking for ship use)	
MIL-C-2594	Cedar, Port Orford & Alaskan Yellow	
MIL-C-2595	Cedar, white (Chamaecyparis thyoides & Thuja occidentalis)	
MIL-T-16098	Teak (for Naval Shipboard use)	
MIL-L-2646	Lignum vitae	
39-B-5b	Balsa (Ochroma)	
MIL-O-2037	Oak, white (for ship use)	
MIL-O-2548	Oak, white, and elm, (for bending)	
MIL-W-15154A	Wood; white oak, laminated (for ship & boat use) (Ships)	MIL-O-15154
MIL-T-16285A (Ships)	Teak, Douglas Fir, laminated (for ship & boat use)	
39-W-2-A	Wood, Impregnated, Compressed	
MIL-F-2038	Douglas Fir, laminated (for ship use)	
MIL-M-2549	Mahogany, Tropical American, etc.	
91-115	Wood Parts, fabricated (for transport vehicle bodies) (U.S. Army Ord.)	
82-11B	Wood, Black Walnut (for small arms) (U.S. Army Ord.)	
82-18	Wood, birch, (for small arms)	
82-19	Wood, maple, (for small arms)	
15068-A	Lumber, mahogany (USAF)	

New Sugar Pine Book

Publication of a new 52-page book describing the character, uses and grades of Sugar Pine was announced by the Western Pine Association, Dept. W, 510 Yeon Bldg., Portland 4, Ore.

It is the sixth in a series which has covered Idaho White Pine, Ponderosa Pine, Douglas Fir, White Fir and Larch and appears exactly 125 years after the discovery of the Sugar Pine tree by botanist David Douglas on Oct. 26, 1826. Single copies are available without charge upon request to Western Pine association.



Three-Cylinder Diesel Engine

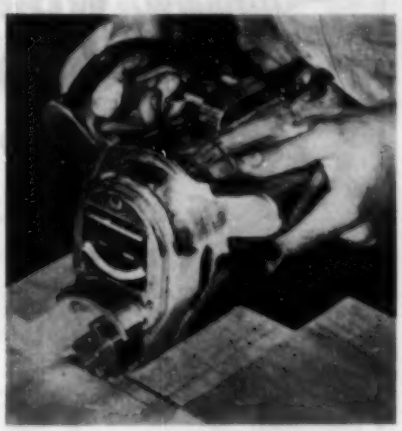
Addition of a new, three-cylinder Diesel engine, rated at 30 to 45 horsepower within a speed range of 1200 to 1800 rpm, is announced by Nordberg Manufacturing Company, Dept. W, Milwaukee 1, Wisconsin. The new power unit supplements the Nordberg 4FS one and two cylinder, 10 to 30 horsepower Diesel engines. They were developed to meet the need for low cost, compact, heavy duty engines in the small horsepower field.

This new engine, known as the 4FS3, has a 4¼" bore and 5¼" stroke and is a four-cycle, vertical, mechanical injection Diesel engine. Built as a complete, self-contained, ready to operate unit, it is available as an electric generator set, pumping unit and with clutch or stub shaft power take-off for direct connection or belt drive.

New Torit Catalog

The complete line of Torit Dust Collectors is described in detail in a new 24-page catalog recently issued by the Torit Manufacturing Co. Included are both cabinet and cyclone type dust collectors, in sizes ranging from 1/3 H.P. to 5 H.P. Also shown are a complete line of fittings and accessories, and a series of blueprint sketches giving the over-all dimensions of each unit.

This catalog may be obtained by writing to Torit Manufacturing Co. Dept. W, Walnut & Exchange Sts., St. Paul 2, Minnesota.



Hand Tool for Contour Cutting

A high-speed portable cutting tool that eliminates time-consuming transportation of work to stationary machines, has just been introduced. Named the "Handshaper" by its makers, the Composite Die Supply Co., Dept. W, 14310 Birwood, Detroit 4, Mich., the machine is actually a portable milling machine—planer—router combination. Numbered among the

(Continued on page 70)

ESTABLISHED 1883

Wood-Mosaic Co.

Incorporated

MANUFACTURERS

VENEERS

African Mahogany—Philippine Mahogany
Canadian Birch—Canadian Maple—Oak
Walnut—Poplar—Basswood

HARDWOOD LUMBER

Birch—Oak—Walnut—Maple—Mahogany

FLOORING

Oak—Maple—Birch

IMPORTERS

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BRANCH PLANTS

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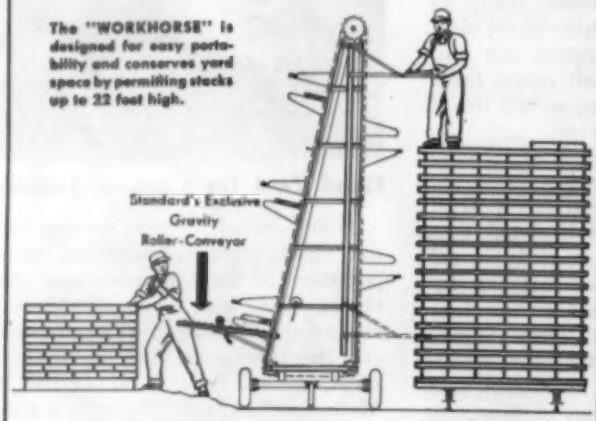
THE Standard WORKHORSE
PAYS FOR ITSELF
IN LABOR
SAVINGS!


The "WORKHORSE" is designed for easy portability and conserves yard space by permitting stacks up to 22 foot high.
Standard's Exclusive Gravity Roller-Conveyor

● The gasoline or electric powered "WORKHORSE"—with its movable feed and take-off beds—makes yard or kiln stacking an easy two-man operation. Yes, it actually pays for itself in *labor savings* . . . it reduces labor turnover, because it makes lumber handling easy, increases production, eliminates labor fatigue, and cuts labor costs.

Standard's exclusive gravity roller-conveyor which automatically feeds the lumber into the jaws of the machine, gives you the quickest lumber handling possible! However, for yards where straight stacking (as pictured) is the only requirement *the "WORKHORSE" is available without the gravity conveyor.*

WE SELL THE FIRST Standard...
Performance SELLS THE REPEATS!

Write for illustrated Standard Catalog

Manufacturers of Internal Fan Kilns

STANDARD
Engineers and Manufacturers Since 1907
DRY KILN COMPANY

P. O. BOX 5708 • INDIANAPOLIS, INDIANA

Wood Puzzlers

When replying please send answers to WOOD & WOOD PRODUCTS and refer to the number after the title. We will be glad to forward it for you. Send us your problems, too. Perhaps other readers have the answers.

Mahogany, Oak, Birch and Gum Plywood—No. 27
We would like to locate a source for fairly large quantities of ¼-in. plywood, in Mahogany, Oak, Birch and Gum. We are interested in cut-offs or good scraps that will cut to ¼-in. x 11⅞ in. x 15⅞ in. (California)

Lumber for Kite Sticks—No. 28
We are anxious to locate a source for lumber to be converted into 5/32 x 5/16 x 30 to 36 in kite sticks. Our requirements are low cost, light weight, and minimum warpage and a minimum number of sound pin knots. Mill ends, cutoffs or trim that could meet our requirements would be particularly interesting. (N. Y.)

Machined Furniture Parts, Cribs, Chiffo-Robes—No. 29
Will give contracts for fully machined furniture parts in the white for sun room furniture. Two carloads per month are required in maple and in knotty cypress (or knotty pine). No plywood or hardware is required. We are also seeking a plant to make one or two cars per quarter of cribs and children's chiffo-robes in maple and poplar, also in knock down form. (N. J.)

Sectional Table Legs—No. 30
We would like to obtain some sectional table legs for cocktail tables, which have glass top and shelf. I want to make a dozen such tables, using ¾" plywood with Formica coverings in various colors. The sectional legs have a CAP (with brass nut)—approximately 6" for separator between top and shelf, which is probably oak, maple or ash, 2" diameter (with hangar bolt which screws into the cap with metal threads and wood threads into piece)—The other or lower part of the leg is approximately 12" x 2" tapered to 1½" at the bottom (with hangar bolt which would screw into the brass nut inserted into lower end of section 6" long). (Ohio)

Dimension Stock—No. 31
We are very much interested in purchasing dimension stock for the production of chests of drawers. We are primarily interested in soft woods such as western fir, ponderosa, clear pine, bass, poplar or any other soft woods. (N. Y.)

Aspen Veneer Logs—No. 32
Can you furnish the names of firms interested in veneer logs of Aspen, (the European white poplar)? I would appreciate hearing from you. (Colo.)

Facilities To Serve You

DRY KILNS—20 Tracks of Latest Moore Design Capacity 1 million feet per charge.

DRY SHEDS—Ample storage Adjacent to Carline Means Dry Lumber for you.

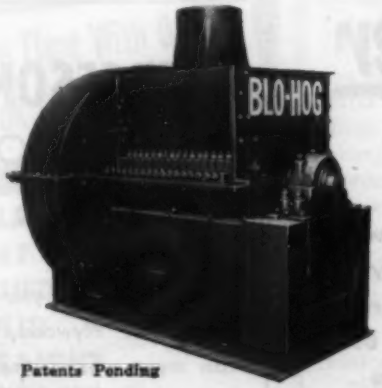
DRY LOADING DOCK—Can Load 19 Cars Under Roof. Assures you quick Shipment Regardless of Weather.

THERE IS NEVER A LET DOWN IN OUR QUALITY-PRECISION MANUFACTURE

The Ralph L. SMITH Lumber Company

ANDERSON, CALIF.

Mills: Anderson & Canby, California
Sales Office: Anderson, California



Patents Pending

MONTGOMERY BLO-HOG

Eats Up Everything

. . . including Pine, Oak, Gum, Hickory, Elm, Wet Veneer Round-up and Sandy Bark.

Conveyor-fed, no attendant is required to "feed the hog."

Sturdy breaker lugs give absolute protection from major damage caused by tramp steel.

Maintenance costs unbelievably low.

Write for bulletin and details.

Jacksonville Blow Pipe Co.

Jacksonville, Florida

American's THE BUY!

IMMEDIATE DELIVERY!

Cash in on today's lumber profits with highly-efficient, modern American equipment

★ **MORE ACCURATE CUTTING** proved over nearly half a century of use.

★ **FASTER SAWING** with American's high-tension feed.

★ **GREATER SAFETY** with American's great protection features.

★ **LONGER LIFE** and lowest upkeep with American's rugged construction.

Thousands of Experienced Lumbermen Rely on The Great American Saw Mills, Edgers, Trimmers, Cut-off Saws and Shingle Machines.

	Headblock Opening	Carriage Length
American No. 1 Mill	38"	16'
American No. 3 Mill	44"	20'
American Porta-Mill	34"	10'

Write Today for Details About American —

Send for your copy of American Catalog A50—gives details about the great American mills — choice of leading lumbermen for two generations.

AMERICAN SAW MILL MACHINERY CO.

Established 1903

HACKETTSTOWN, N. J.

"American" Saw Mills and "Monarch" Woodworking Equipment

(Continued from page 67)

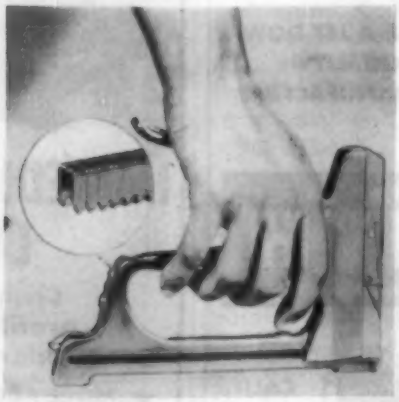
many uses of the versatile contour cutter are the cutting and shaping of wood, plywood, plastic, masonite, stone, paper, fabric and non-ferrous metals and alloys.

Low Priced Dado Set

Featuring an entirely new and exclusive design, the new Pacific Groove Master dado set is designed to produce smoother grooves faster without the usual burned or splintered edges.

The set consists of two outside cutters made from alloy steel and six inside chippers. But, instead of the usual four or more sets of teeth on the two outside cutters, the new Groove Master has only two. Extensive tests, it is claimed, proved that this fewer number of teeth cuts faster and cooler with less power, and eliminated binding which burns the sides of the grooves.

For further information write to Western Saw Manufacturers, Inc., Dept. W, 1844 West Washington Blvd., Los Angeles 7, California.



Heavy-Duty Stapling Gun

A handy new pocket-sized stapling gun that packs five times the power of ordinary one-hand industrial tackers has been developed by The Heller Company, Dept. W, Cleveland, Ohio. This sturdy, streamlined tool is said to be the first one-hand stapler capable of fastening metal or fibre shipping tags to export boxes.

The operator holds the tag in place with one hand, then shoots staples as fast as firing a Colt automatic. The heavy duty staples are five times normal size, and grip the wood securely with a super-clinch locking feature.

Folder Spotlights "Palletized" Containers

"Stacks-up Better for Less", is the title of the latest bulletin featuring "Wirebound Palletized Tote Boxes", designed and produced by The American Box Co., Dept. W, 1900 W. 3rd St., Cleveland, Ohio.

The 8½ x 11, brown and black, 4-pager, is fully illustrated and outlines the advantages of these versatile lightweight containers.

Complete details of important construction features help to explain the broad utility of the new "wirebounds" which are offered by the company in many design variations.

SPEAKING of Manpower

CLARK ELECTRIC AND GAS POWERED FORK TRUCKS
AND POWERED HAND TRUCKS • INDUSTRIAL TOWING TRACTORS

INDUSTRIAL TRUCK DIVISION • CLARK EQUIPMENT COMPANY • BATTLE CREEK 120, MICHIGAN
Please send: ☐ Material Handling News ☐ Condensed Catalog
Name_____
Firm Name_____
Street_____
City_____ Zone____ State_____

When you cannot get the manpower you need, you can get more production out of what you have—by using CLARK EQUIPMENT for handling materials.

Get this helpful free literature by returning the coupon attached to your letterhead.

VIRGESON'S
ONE STOP
SERVICE

No matter what you need in Lumber or Plywood, Virgeson can meet your entire requirements . . . all types and species.

Why not send us your complete specifications. You'll enjoy doing business with us.

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SOUTHERN HARDWOOD FURNITURE DIMENSION

Glued-up Panels
Core Stock
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"Our 36th Year"

We Solicit Your Inquiries.

Mills at:

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Save Time With Our Fine Oak Dimension Stock

- KILN DRIED
- FLAT
- GLUED-UP
- SOLID
- STRAIGHT
- SURFACED

Furniture manufacturers make savings when they use Memphis Hardwood Flooring Co.'s semi-finished dimension stock. No time wasted means lower costs and better profits.

Send us your specifications for quotations

Chickasaw Brand Oak Flooring
Pre-finished and unfinished
Treads—Risers—Thresholds

MEMPHIS
HARDWOOD FLOORING CO.
Since 1905
1591 Thomas St. • Memphis, Tenn.

LAMINATED

(Continued from page 28)

schools, gymnasiums, stores and commercial buildings; finished and semi-finished wood parts such as wagon tongues, wagon boxes, rake teeth, reel bats, diving boards, billets, etc. for final manufacture by other industrial firms. Laminated flare cases for the Navy and artic hut frames for the Army are a current adaption to aid the present defense effort. World War II, as you probably know, accelerated the demand for glued-laminated members, and provided added impetus to the development of new structural glues and fabricating techniques.

Why Trend?

You might well ask, "What is the reason for this growing trend toward usage of laminated wood structural members?" The reasons are legion in number because laminated wood utilizes all the advantageous properties of wood, and has thrown off the limitations of the log. It makes possible the fabrication of members of large cross-section and efficient, graceful structural shapes, such as continuous Gothic and tudor arches, which are impossible to obtain with solid timbers. For instance, laminae (or plies) can be selected to place the best material at the points of maximum stress. Individual plies are thin enough for thorough season before fabrication, thereby eliminating warping, checking and twisting, common to seasoning of heavy timbers. Perhaps one of the most important factors in its acceptance is the economical, labor-saving erection made possible by precision factory fabrication.

The use of well-designed glued-laminated framing members has brought engineering into farm buildings as never before. It enables every farmer to enjoy the safety, flexibility, durability and utility of buildings correctly designed for their specific functions. Rilco farm rafters are engineered and fabricated in a variety of shapes and sizes for the economical construction of dairy and beef barns, general purpose barns, machine sheds, corn and grain storage buildings, poultry, brooder and hog houses, and utility buildings. Old-fashioned rafters, braces and posts are replaced by these modern framing members, which are continuous from founda-

(Continued on page 73)

KILN DRIED LUMBER

FOR

immediate shipment

EITHER TRUCKLOAD OR CARLOAD LOTS

Northern Hardwoods

Basswood	4/4 to 6/4
Birch	4/4 to 8/4
Hard Maple	4/4 to 8/4
Soft Elm	4/4 to 12/4

Appalachian Hardwoods

Beech	5/8 to 10/4
Red Oak	5/8 to 8/4
White Oak	5/8 to 8/4

Southern Hardwoods

Ash		4/4 to 8/4
Basswood		4/4 to 6/4
Hackberry		4/4,to 5/4
Sap Gum		5/8 to 8/4
Tupelo Gum		4/4 to 8/4
Red Gum		4/4
Soft Maple		4/4 to 12/4
Sycamore		5/8, to 8/4
Poplar		3/4 to 12/4
Hickory	(AD)	8/4
Cypress	(AD)	4/4

Mahogany

Honduras	3/4 to 12/4

Walnut

Steamed	5/8 to 8/4

Pine

Parana (Brazilian)	4/4, 5/4

The above hardwoods are in No. 1 Com. & Better Grades

and generally are available in higher grades.

Your inquiry will receive prompt and courteous attention

MONARCH
HARDWOOD
LUMBER CO.
3304 W. Belmont Ave.
Chicago, Ill. Tel. JUniper 8-1234

WOOD
TRADING POST
139 N. Clark St., Chicago 2, Ill.

HELP WANTED

WANTED
Experienced moulding sticker man by old established millwork manufacturer. Must be able to make own setups and grind knives. Address Box A-185, Wood.

Northern Wholesale Company needs experienced Lumberman familiar with Yellow Pine and West Coast Lumber to manage office. State experience with references. Renumeration commensurate with ability. A-182 c/o Wood.

Superintendent for Woodworking Department large Southern Plant, producing Pre-fabricated Structures, Shipping Containers, Pre-fabricating shelving, etc., Must be experienced in production methods, lumber procurement, and estimating. Plant is equipped with modern high speed machinery; presently has large back-log civilian and defense orders. Resume should include recent earnings. Box No. 183.

TWO SHORT COURSES
to help you
SAVE MONEY AND
USE WOOD BETTER

Hardwood Lumber Grading
March 17-20

Instruction by inspector from headquarters, National Hardwood Lumber Association, Chicago. Demonstrations, conferences, discussions. $25 fee. Limited enrollment.

Dry Kiln Operation
April 21-26

Famed for 30 years. Lectures, demonstrations, practice. Drying of complete charge of lumber. $75 fee. Enrollment limited to 25 persons.

•

Inquire Dept. of Forest Extension
State University of New York
COLLEGE OF FORESTRY
Syracuse 10, N. Y.

HELP WANTED

WANTED
BILLER AND DETAILER

For special millwork house in Southern New England to make full-size details and material bills of architectural woodwork. Permanent position with one of oldest millwork firms in New England. Advise fully as to references and qualifications. Write Box A 175, WOOD.

BUSINESS OPPORTUNITIES

Well established 4A1 company with large directly controlled production and substantial wholesale business has opening for the right man who should be between 30 and 40 years of age and have a reasonable background in the wholesale business, principally in Appalachian and Southern Hardwoods, as well as Yellow Pine.

This is a splendid opportunity for the right individual not only for security but earnings.

Give complete history in reply.
Box A-181, Wood

A large foreign Company requires immediately permanent services of two top calibre personnel:—

a. **General Manager** capable of managing and directing both administrative and technical activity of the company which is going to set up immediately a hardwood plywood, veneer and flush door manufacturing plant and expand into other fields of timber industry.

First class trade contacts; all round thorough knowledge of lumber; hardwood plywood; veneer and flush door manufacture, and other timber industry necessary.

b. **Plant Superintendent** capable of setting up and operating a complete hardwood plywood veneer and flush door manufacturing plant. Must have successful experience, thorough technical know-how, and capability of doing machine repair, maintenance, other engineering jobs and training and handling employees.

Write complete history, stating age, experience, reference, past salaries, terms and salary expected in reply. Application will be treated strictly confidential. Excellent deal to the right man.

FOREST INDUSTRY
ORGANIZATION
RAJADAMMERN AVENUE
BANGKOK, THAILAND

HELP WANTED

WANTED—experienced moulding sticker man by old established millwork manufacturer. Must be able to make own setups and grind knives. Address Box A-184, Wood.

EMPLOYMENT

J. L. OVERHOLT
WABASH EMPLOYMENT AGENCY
202 S. State St.—Chicago, Ill.
Places all types of Woodworking Executives, Gen. Mgr., Works Mgrs., Superintendents, Etc.

PLANTS FOR SALE

For Sale WOODWORKING and finishing plant, fully equipped, low labor costs, low taxes, very low rental, 10,000 sq. ft. floor space. Write box 12 Herrin, Ill.

Complete Saw Mill for sale at Pequaming, Michigan, includes 2 Prescott air set carriages, Clark 8 ft. band, trimmer, edger, hog, motors, etc. Will sell as unit or separately. Inquire: Northwoods Timber Co. Phone 16, Baraga, Michigan.

MACHINERY

FOR SALE
Machinery for entire bushel basket Plant including modern St. Joe Hydraulic-Automatic bushel machine. Ottawa Basket Co., Oak Harbor, Ohio.

"New Atkins TZ-46 Electric Chain Saw consisting of Louis-Allis generator, 10 H.P. Atkins Power Head, 100 foot feeder cable, 46 inch bar and chain with helpers handle. Priced less than our cost." Highway Equipment Co., 2150 Langdon Road, Cincinnati 13, Ohio.

Econaway Abrasive Belt Splicer

Precision built. Will splice any kind of abrasive belts and sleeves straight and true in two minutes.
Also Steam Humidifiers.
Write for particulars.
Dealers Wanted.
Econaway Manufacturing Co.
Bellevue, Michigan

LUMBER, PLYWOOD, ETC.

Kiln Dry, Solid Dimension, Rough, Surfaced & Moulded, Maple, Birch, Oak, Elm, Basswood, 4/4, 5/4 & 6/4.

R. W. Marquardt
Box 316, Phelps, Wis.,

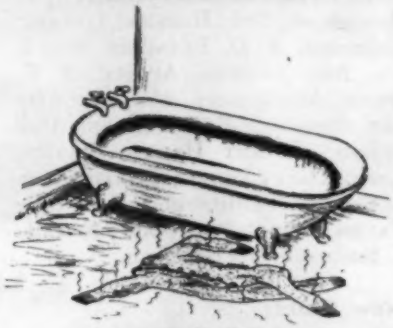
WEST COAST LUMBER
Kiln Dried Douglas Fir Industrial Clears All thickness to 16/4 Millwork Stock Rough or Surfaced Mouldings, Ladder Rails and Cut Stock
Al Clements Lumber Co.
PO Box 908 Eugene, Oregon
TWX EG 049 Phone 5-3317

Always in position to supply 4/4" thru 8/4" Gum, Poplar & Elm, rough, dressed or resawn. Stock widths usually available. Inquiries handled promptly. Harry B. Weiss, P. O. Box #392, Memphis 1, Tenn. Phone 8-3146.

BOX LUMBER
Rough — 8/4 — Resawn Center
4/4" - 5/4" - 6/4" - 8/4"
Gum, Tupelo, Elm, Cottonwood Willow, Yellow Pine and Misc. Hardwoods
CRAIG LUMBER CO.
325 Falls Bldg. Memphis 3, Tenn.

FOR SALE
4/4 5/4 6/4 8/4 D&btr soft Ponderosa Pine kiln dry rgh or s2s straight or mixed cars. Ellingson Lumber co., Klamath Falls, Oregon.

WOODICTIONARY



ANNUAL RING

In the case of wood, the growth layer put on in a single growth year.

LAMINATED

(Continued from page 71)

tion or plate to roof ridge. This provides greater resistance to wind and snow loads, and roomy, clear-span interiors.

Glued-laminated wood was welcomed by architects who long desired a practical, inexpensive structural arch combined with a decorative appearance. The distinctive beauty of wood laminations eliminates necessity of expensive veneering, and establishes a warm, friendly atmosphere.

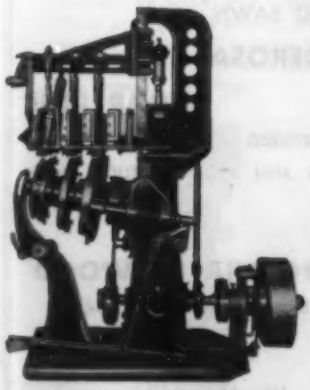
Arches, beams and trusses can capture their share of the market for construction of churches, schools, gymnasiums and other commercial buildings.

Glued-laminated members seem to be the answer to the growing need for clear-span buildings, fast construction, and strict economies. The many sturdy, attractive buildings that today dot the landscapes of rural and urban America are tributes to the ingenuity and resourcefulness of industry in engineering and developing these efficient, versatile members . . . . . a new product of wood.

THIS ONE STAPLER WILL-DO THE JOB

All your basket and hamper requirements can be filled on this one stapler–the St. Joe Model 234. Quickly and easily changeable from one style to another without sacrificing quality.

Offering you the advantages of the very latest improvements in the hoop lap evener, roller type hoop guides, angle bottom head, and stave and bottom bumper. Write for full details on this stapler and others. No obligation.



Model 234 with end gate mechanism for making baskets.

8 quart Jersey Peach Basket

16 quart Jersey Peach Basket

½ Hamper

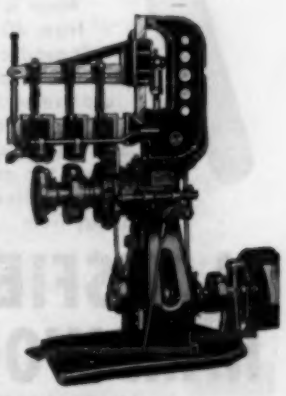
The St. Joe Tub Basket Stapler is fully adaptable for making hoop hamper type baskets, veneer or plywood drums, as well as many other cylinder type drums and the shell type baskets having the stitched-in or dropped-in bottoms. Due to the smooth performance of the model No. 234 under all types of conditions it is a proven profit maker.

** Our 75th Anniversary **

Veneer Drum

Half Bushel

One Bushel



Model 234 with form for making veneer drums.

1877 **St. Joe Machines, Inc.** 1952

IT'S ST. JOE TODAY!... FOR STAPLING MACHINERY

ST. JOSEPH MICHIGAN

You'll be DOLLAR$ Ahead with MAN$FIELD Micro-Made DIMEN$ION

Hardwood or Pine

Glued-Up or Solid

Moulded Equalized Tenoned

From Mansfield's own perpetual yield timberlands only the finest is selected from 40,000,000 ft. produced yearly. Finished by master craftsmen using the most modern methods and machines. You are assured top quality and on-time delivery when you buy from . . .

MANSFIELD HARDWOOD LUMBER COMPANY

Post Office Box 91

Shreveport, Louisiana

Mills: Zwolle and Winnfield, Louisiana
Dimension Plant: Zwolle, Louisiana

NAMES . . . EVENTS

(Continued from page 52)

zation of woodworking machinery specialists who have been factory trained to intelligently serve industry. It operates in all the principal cities in the eastern and northern central parts of the United States, and is owned, operated and controlled by the officers and salesmen."

Sales representatives are as follows: AL JOURNEAY, Boston; GEORGE MANSELF, Hartford; EL WEIGEL, Rochester; JIM KING, New York City; H. A. MCCORMICK, Baltimore; JACK ARTHUR, Georgetown, Del.; HERBERT LOWERY, Richmond; A. D. REYNOLDS, Bristol, Va.; BILL RIORDAN, Atlanta; H. G. BROCK, Montgomery, Ala.; KEN SADLER, Cleveland; FRANK SHOBER, Cincinnati; VINCENT HAINEN, Bowling Green; HARRY PORTER, Peoria; CHARLES JUDGE, Pittsburgh; NEIL MCTAVISH, Detroit; RAY WALL, Newark; J. BIRCHARD, Hackettstown.

New Plants

The purchase of a tract of more than 25,000 acres of forest land in southern Walton County, Florida, has been announced by the ARMSTRONG CORK Co., Lancaster, Pa. The timberland will be used to supply pulpwood for the company's insulation board plant at Pensacola, Fla.

Miscellaneous

THE MEYERCORD Co., Chicago, Ill., is conducting what is said to be one of the first prize-awarding contests ever aimed specifically at business men, with a holiday in Mexico for the winner.

The PALMERTON LUMBER Co. of Klamath Falls, Ore. received the first shipment, recently, of Philippine Mahogany lumber ever to be received in Longview, Wash. The lumber was cut by the Palmerton mill east of Manila, P. I.

GEORGIA-PACIFIC PLYWOOD COMPANY'S annual report for 1950 has been selected by an independent board of judges in the Financial World Annual Survey as the "Best of Plywood Industry."

The NATIONAL CONTAINER CORP., New York, N. Y., announces that it has awarded to the MERRITT-CHAPMAN & SCOTT CORP. a contract for the design, construction and equipment of a 500-ton per day kraft pulp, board and paper mill to be erected near Valdosta, Ga.

Handle Dry Kiln Doors SINGLE-HANDED?

You can do it with The Universal DOOR CARRIER

One man—with one hand—and a Universal Carrier can open or close a kiln *in a few seconds.* And the carrier makes your doors last longer!—by gentler handling, without twist or strain. Automatic locking gives you good tight closures every time.

Write for further facts!

Universal DOOR CARRIER, INC.
1117 Cornell Avenue
Indianapolis 2, Ind.

Importers of GENUINE MAHOGANY

Wholesalers of

BAND SAWN
PONDEROSA & SUGAR PINE
SOFT TEXTURED
BIG MILL HIGH ALTITUDE STOCK

CALIFORNIA REDWOOD
BAND SAWN HUMBOLDT BAY

We Maintain a West Coast Buying Office

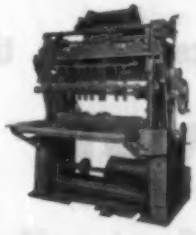
DON B. WALLACE INC.
Guardian Building
Detroit, Michigan

You pick the pattern...

THE fmc INDUSTRIAL CENTER-LINE NAILER

WILL PICK *and drive* THE NAILS...!

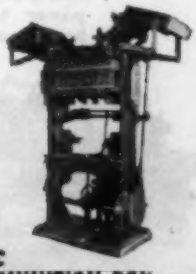
This versatile nailing machine saves time and labor in the production of skids, pallets, grain doors, outdoor furniture, cooling tower panels and other types of wood fabrication. Available in 3 standard machine widths, 48", 66" and 80". Nailing chucks can be adjusted for in-line, staggered, clustered, or group nailing patterns on level, angled, or variable height surfaces. Automatically selects and drives up to 24 nails per stroke. Handles any size nail from 3d to 10d, including common, smooth box, cement coated box, copper, aluminum, drive screw, or ring shank. Special jigs and nailing tables can be designed to specific nailing requirements.



fmc EDGE NAILER—Embodies most features of standard industrial center-line nailer but special chuck arrangement permits work to pass in front of machine for edge nailing, crate and edge box framing, cleating.

fmc SCREW DRIVING MACHINE—drives up to four screws simultaneously into wooden boxes and other assemblies. Ideal for screwing hinges, swivels and hasps on small ammunition or similar type boxes.

fmc CLOSED BACK FC NAILER—accommodates work from 1" to 18" deep; 8 or 12 run nail feed; 8 nail drive; 4d, 5d and 6d nails. Ideal for flat nailing, box making, cleating and lidding. Ammunition box end making.



fmc AMMUNITION BOX MAKER (AC-5A) — adjustable, heavy duty for nailing sides and bottoms to ends of various types of ammunition and industrial boxes no larger than 16" high, 16" wide, and 26" long.

Send FOR ILLUSTRATED BULLETINS —

fmc Trade Mark

FOOD MACHINERY AND CHEMICAL CORPORATION
Packing Equipment Division
RIVERSIDE, CALIFORNIA, DEPT. F.

- ☐ Industrial Nailer
- ☐ Edge Nailer
- ☐ Screw Machine
- ☐ FC Nailer
- ☐ (AC-5A) Nailer

ST. & NO. _____

NAME _____

CITY _____ STATE _____

NM-18

SOLVENTS

(Continued from page 56)

cylinder equipped for Vapor-Drying to carry out the seasoning, treatment and solvent recovery without ever moving the charge once it is placed in the cylinder. The fact that green lumber can be made available, treated and solvent recovered in less than 24 hours, should have a very important bearing on the use of the process.

At present, the experimental work on the solvent recovery process is being extended to pentachlorophenol treated lumber and later will be used on recovery of solvent from lumber treated with other oil borne preservatives.

A further application of the process that holds great promise is that of employing it for obtaining properly cleaned surfaces on wood that has been impregnated with oily preservatives, prior to lamination with synthetic resin adhesives. Today most of the resin bonded lumber that is treated with oily preservatives is laminated before treatment, since it is virtually impossible to get satisfactory bonding of the glue to oily surfaces of the treated wood. Bonding prior to treatment has some serious drawbacks, chief among which is the fact that the synthetic resin glue lines offer barriers to movement of preservatives into the laminated structure. Extensive tests carried out recently have shown that the process is suitable for the purpose of cleaning the treated surfaces prior to gluing.

This process should be of particular interest to users of treated car lumber, platform decking, sign post lumber, etc. where paintability is required in lumber treated with oil borne preservatives.

Literature cited:

(1) A.W.P.A. Proc. 35:56, 1940 Report of Committee on Painting of Creosoted Wood.
(2) A.W.P.A. Proc. 37:81, 1941 Report of Committee on Painting Creosoted wood.
(3) A.W.P.A. 38:85, 1942 Report of Committee on Painting of Creosoted Wood.
(4) A.W.P.A. Proc. 39:89, 1943 Report of Committee on Painting of Creosoted Wood.
(5) Hudson, M.S. U. S. Patent 2,435,218
(6) Proceedings Forest Products Res. Society Vol. 1; page 124, 1947

(Continued from page 34)

about 65-lbs. and a material pressure of about 35-lbs. About 15 minutes travel is permitted for flow before entering the lacquer drying oven where the top coat is force-dried for about 2 ½ to 3 hours at a temperature of about 120-degs. F. and a relative humidity of about 25%.

This top coat is cooled and cured by travel over the conveyor for about one hour before delivery to the rubbing department. Most seats and lids are leveled sufficiently by wet sanding with 280 or 320 paper and paraffine oil although some require further hand rubbing with pumice and paraffine oil. After the units have been cleaned off they are steel wooled (4/0 steel wool) and waxed with paste wax. Finished units are placed in the large rack trucks for delivery to the packing and trimming department.

Regardless of the final color of finish all enamel finish seats and lids are first dipped in a white oil-base filler with the same conveyor and dipping tank arrangement as is used in the varnish dipping operation. These dipped units are given about 10 to 15 minutes travel along the conveyor to set the filler and then are ragged and wiped clean before sanding lightly with 5/0 paper.

The "Extra Ingredient" in

Permawood
HARDWOOD PLYWOOD

For 34 years, skilled workmen, supervisors, and inspectors have cooperated to bring PERMAWOOD to its present highly regarded position in the industry. This pride of products is the "extra ingredient" in PERMAWOOD Hardwood Plywood.

Panels get high polish and correct thickness in Darlington's Drum and Belt Sanders.

We make PERMAWOOD panels in standard sizes, all veneer construction from 3/20" to 1-1/16" thick, and in lumber core construction in 3/4" and 13/16" thickness. Widths from 30" to 48"; lengths from 36" to 96". Write for latest stock lists and prices.

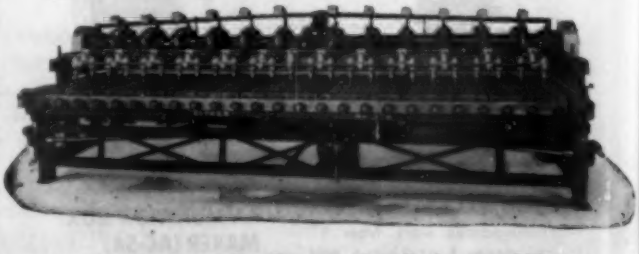
DARLINGTON VENEER CO., INC.
Established in 1918
DARLINGTON, SOUTH CAROLINA

Carve 4 to 32 pieces at one time on

"OLIVER"

Multiple Spindle Carving Machines

● "Oliver" Carving Machines handle flat, round and odd shaped pieces, duplicating the master carving exactly. Cuts half rights and lefts, if desired. Quickly set up from the front. Carriage main beams and table beams remain perfectly straight. Tandem type spindle heads—one housing for two ball bearing spindles, with power to maintain high speeds under extra heavy cuts.



Write for fully illustrated Bulletin No. 308

OLIVER MACHINERY COMPANY
Established 1890 GRAND RAPIDS 2, MICHIGAN

Here's the way to

BALANCE

some of your

HEAVY TAXES

The tax assessment on each barrel of whisky you fill is high. Your one hope to improve your net earnings is to yield more whisky per barrel. *This you can do* . . . by aging your fine whisky in fine Blue Grass Cooperage.

In the first place, you will be pleased by the unvarying rich color and flavor imparted by the always uniformly charred, carefully seasoned, selected white oak barrels made by Blue Grass . . . to your own *specifications.* And then . . . very important . . . you'll be many dollars ahead when your well matured whisky is ready for dumping. Blue Grass' patented whisky-saving head, *available at no extra cost,* reduces outage by as much as two gallons per barrel in the usual four-year period!

When you add the income from those *extra gallons saved* to the profit side of your ledger, you'll recognize that it really pays to buy Blue Grass barrels . . . the reasons are INSIDE. Order today.

Sincerely,

Tom Helm

T. O. Helm, President

BLUE GRASS COOPERAGE COMPANY

5000 CRITTENDEN DRIVE . . . LOUISVILLE 9, KENTUCKY

BLUE GRASS BARRELS are used exclusively in the aging of **OLD FORESTER***

*Bottled in Bond, Kentucky Straight Bourbon, 100 Proof

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LIDS AND LOADS CRATES

(Continued from page 80)

In regular operations for the Royal Packing Company and the A & R Lettuce Company at Salinas, the unit rolled right along the lettuce rows behind field workers. It picked up, lidded and loaded onto companion pick-up trucks some 600 to 700 crates per hour—more than two rail carloads every sixty minutes.

In handling time alone, this represents a great saving. Most importantly, however, it brings to dry-packed lettuce crates the same controlled lid bulge and fine appearance as boasted by lettuce packed in machine-equipped sheds. Additionally, because it can be used at day or night, rain or shine, the machine promises new flexibility for field harvesting and packaging operations.

Needs Only Two Men

Operation of the unit requires only two men: a driver and a worker at the lidding press. Its 700-crate-per-hour performance during demonstrations was achieved with an untrained field worker at the lidding press, a General Nailing Machine Corporation Model GM 120. It lets field crews pack more crates in a shorter time and frees four to seven men for packing that formerly had to be occupied in hand-lidding.

Other features of the unit make it worthwhile, too. Its conveyors and nailing machine may be used for any type of sawn-nailed vegetable crate. It has been proven in tests involving field pick-ups of tomato lugs, baled hay and sacked grain.

WOODICTIONARY

SNAG

(1) A standing dead tree.
(2) A sunken log or submerged stump.

Hundreds of
applications prove
HASSALL
annular threads have
GREATER
HOLDING POWER
Annular threads are used where greater grip is a "must" — in industries like shoe manufacturing, asbestos siding, underlay flooring for linoleum, pallet manufacturing, boat building, etc., etc. The stronger holding power of these threads should solve many a wood fastening problem, maybe yours! Save, too, by using fewer nails. Write for samples.
JOHN HASSALL, INC.
409 Oakland St., Brooklyn 22, N. Y.
Hassall
ESTABLISHED 1850

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